Th[illegible] Goulstonian Lectures

ON

INFL[illegible] OF PREGNANCY UPON TAIN M[illegible]AL DISEASES AND OF CERTAIN MEDICAL DISEASES UPON PREGNANCY.

d before the Royal College of Physicians of London on March 17th, 19th, and 24th, 1908,

HERBERT FRENCH, M.A., M.D. OXON.,
F.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO GUY'S HOSPITAL.

257

LECTURE I.

Delivered on March 17th

INTRODUCTION.

PRESIDENT AND GENTLEMEN,—The title of these s perhaps requires a few words of explanation in might be at all misleading. The subjects that it is ed to discuss will not be dealt with from an rical point of view, but purely from their medical or ogical aspect. The gynæcologist and the obstetrician naturally be interested in the medical diseases which rise in a pregnant woman, and in some cases the ent in these circumstances may be gynæcological stetrical rather than medical. I have not the to deal with gynæcological or obstetrical treatment, hall therefore say nothing about it. On the other the fact that a medical disease arises, or is already t, when a patient has become pregnant by no necessarily implies that the immediate treatment patient should be carried out from a gynæcological or rical standpoint. It is true that there are conditions which the aid of the obstetric physician may be ed to terminate the pregnancy artificially, and it is rue that similar aid will be essential when the pregnancy es its natural term, or earlier if any accidental termina- o it should arise. There are, however, many conditions ich the pregnancy may be, as it were, an accidental mitant or complication of the medical disease; there her conditions in which pregnancy is actually the cause medical disease, and many of these cases are of direct st to the physician.

n a given case it should be decided that the pregnancy be allowed to run its natural course, the responsibility patient's health would rest with the physician until as the pregnancy either reached its term or ceased self normal. It is, therefore, essential that the ian should be fully acquainted with the probable s both of the pregnancy upon the medical disease from h the patient may be suffering and also of the medical se upon the pregnancy. Two examples may perhaps this explanation. Suppose, for instance, that a pregnant an contracts typhoid fever. Three questions at once arise mely, Is the fact that this patient is pregnant likely ake the typhoid fever more severe than it otherwise ld be? Is the patient's pregnancy likely to terminate rmally on account of the typhoid fever? Ought the tment of this patient to be different in any way from of other persons suffering from typhoid fever? It is that, so far at least as the typhoid fever is concerned, treatment should be carried out by those most familiar typhoid fever if it can be shown that the treatment of cases ought to be upon the same lines as that of non- nant persons suffering from the disease. So far as the hoid fever is concerned the pregnancy may be an idental concomitant, but it is important to the physician now what is likely to be the result of the combination.

s my second example, may I take that of a patient who ents herself with that peculiar skin eruption, herpes tationis? If she were not pregnant she would not have the ption; but having the eruption the immediate treatment the patient for her skin trouble is probably best carried by one who is most familiar with skin diseases, provided is known that the pregnancy is not likely to run an normal course.

It is only from the medical point of view that I am in a position to discuss the mutual effects of pregnancy and medical diseases; and seeing that there are few medical diseases that cannot either themselves arise during pregnancy or else permit of pregnancy occurring when they are already in existence, it is clear that the whole field cannot be covered in three lectures. I am obliged therefore to restrict the discussion to a few affections which appear to possess particular interest.

In the first place, there are certain medical diseases for which pregnancy appears to be itself directly responsible. One of the most definite of these, comparatively rare no doubt, yet full of interest from a pathological point of view, is

HERPES GESTATIONIS.

This disease is apparently related to pemphigus, to hydroa, to erythema bullosum, and to dermatitis herpetiformis or Dühring's disease. The eruption is variable in the extent to which erythematous patches, pinkish-red papules, and wheals not unlike those of urticaria are present, but to whatever degree these may coexist the distinctive lesion is vesicular or bullous. Sometimes the blebs are comparatively large and widely separated and they are preceded by more or less erythema, in which case the eruption is very similar to that of erythema bullosum. More rarely the bullæ occur before any erythema is obvious and pemphigus is simulated. In other cases again the vesicles are smaller and they may be arranged in groups upon an inflamed base like those of herpes zoster—the herpetiform variety. The cases that I have seen have exhibited a mixed condition, the majority of the vesicles being only moderate in size, with here and there amongst them a few that were large enough to be called bullæ; the smaller vesicles have shown a slight tendency to be grouped together as in herpes, but it is not often that they are confluent or that a single group contains as many vesicles crowded together as is the case in well-marked herpes zoster. The vesicles, whether large or small, have been preceded by an itching erythema which has in the beginning been smooth but which has rapidly become first papular and then vesicular. The eruption itself has been more like that of dermatitis herpetiformis than anything else, the chief clinical distinction between the two being solely the direct relationship of herpes gestationis to pregnancy.

An illustrative case.[1]—The following is an illustrative case. The patient, 41 years of age, was under the care of Sir Cooper Perry in Guy's Hospital, and was sufficiently ill to require treatment in bed for over a month. Her history was briefly this: She was the only member of her family troubled with the complaint. She had been perfectly well up to, and for some time after, her marriage, when she was 23 years old. She had had seven living children and four miscarriages. The first miscarriage occurred after she had had three living children and it was then that she suffered from her skin trouble for the first time. Since then, though quite free from it between whiles, she had had the eruption with each successive pregnancy, the itching erythema, vesicles, and bullæ recurring constantly upon her hands and arms and sometimes upon her trunk, legs, and feet. She was three months' pregnant at the time of her admission to the hospital; one month previously her ninth attack of herpes gestationis began with pains and irritation on the hands and forearms, rapidly followed by the eruption of discrete water-blisters of moderate size which, owing to scratching, broke down and discharged clear fluid. Each bleb dried up and healed in about a week, leaving a reddish mark which was slow to fade, whilst fresh vesicles kept on appearing daily in the neighbourhood. There was no pyrexia and no marked constitutional disturbance beyond what could be attributed to broken sleep, the result of irritation in the affected areas of skin. The arms and hands had been involved for three weeks before vesicles developed elsewhere, and then without apparent cause a precisely similar eruption came out upon the face and ears, spreading thence to the chest, abdomen, buttocks, lower limbs, and feet. The number of blebs upon the trunk was never so great as that upon the limbs. Flexor and extensor surfaces were equally involved and the parts were not only irritable but also painful. The pains were doubtless due, in part at least, to the sore places being made worse by scratching. Left to themselves the blebs healed without breach of surface and without pyodermia. Some of the vesicles that had been interfered with either bled or became pustular; the latter change was always consequent upon inoculation by scratching. There was no involvement of mucous membranes, though there are doubtless cases in which the buccal mucosa and the colon may be affected, as has been observed in some instances of erythema bullosum. Under treatment by the yellow oxide of mercury ointment externally and by Fowler's solution of arsenic internally, together with rest in bed, light diet, and laxatives, there was some abatement in the skin trouble after about three weeks, but even during the continuance of the treatment a severe relapse ensued whilst the patient was still in the hospital. The trouble, waxing and waning in this way, persisted until the child was born, living, at term, and then, as on eight former occasions, the herpes gestationis rapidly got well by itself.

---

[1] See also C. A. Douglas Bryan, THE LANCET, June 4th, 1904, p. 1570, and numerous papers in the journals of dermatology.

This case is fairly typical, and there are but few points to add before passing on to consider the pathology of the condition. It is not only possible for a patient like the above to have no trouble during the first pregnancies and then to develop the disease in later ones, but it is also possible that having had the skin disease in one pregnancy she may escape it at the next and yet develop it again in a later one. The time of onset is usually of the accelerating type, that is to say, in successive pregnancies it is likely that the date at which the herpes gestationis will reappear is a little earlier each time. It is, moreover, probable that the attacks will tend to become severer rather than the reverse. A few cases exhibit severe constitutional disturbance, with pyrexia and loss of appetite. It is, moreover, a curious fact that whereas the majority of the patients develop the trouble during pregnancy and lose it during the puerperium or soon after, it occasionally happens, as in another case under the care of Sir Cooper Perry, that the eruption first appears after labour, lasts a variable number of weeks or months, and then goes away spontaneously not to reappear until just after another child has been born.[2]

Pigmentation.—Another point that may be of interest perhaps is the increased pigmentation of the skin that is apt to be left after each attack. The pigmentation may be generalised all over the body in much the same way as it is in severe cases of Addison's disease. Usually, however, it is most marked in those parts of the skin in which the eruption itself has been worst. It is well known that uterine disorders are apt to cause pigmentation—the uterine chloasma—but this is, as a rule, much more marked upon the face, especially upon the forehead and around the eyes, than it is elsewhere. There is little or no evidence that the pigmentation which follows herpes gestationis is in any way allied to uterine chloasma; indeed, there is seldom any obvious uterine derangement in the patients who suffer from it. The chief causes of the pigmentation are probably, first, the constant scratching or rubbing that the irritation in the affected parts gives rise to, just as it does in phtheiriasis, where pigmentation also becomes well marked as time goes on; and secondly, the arsenic which is administered in most of the cases. The darkening of the skin is so great in some patients that they look as if they might be of coloured extraction. There is apparently no record as to whether or not the pigmentation ever occurs upon the buccal mucosa as well as upon the skin, but between the attacks of herpes gestationis it would sometimes not be difficult to mistake the general appearance for that of Addison's disease if the history of the skin trouble were concealed.

Pathology.—The direct relationship of the disease to pregnancy is very remarkable. It seems to be the only point distinguishing it from dermatitis herpetiformis. I should like in this connexion to say a few words about eosinophilia.

Eosinophilia.—It is often stated in a general way that eosinophilia occurs in a large number of skin diseases. To test this I have made differential leucocyte counts in a number of all kinds of eruptions, and in the great majority of the commoner varieties there is no eosinophilia at all.[3] If it be granted that nothing less than 5 per cent. of coarsely granular eosinophile cells in the blood can be termed eosinophilia, it is quite exceptional for cases of eczema, psoriasis, and the like to exhibit it. The reverse is true of the bullous dermatoses, however. There are, of course, a good many cases of pemphigus in which no eosinophilia is found at a single examination, and the percentage of coarsely granular eosinophile corpuscles varies not only in different individuals suffering from the same disease but also in the same in viduals at different times. Nevertheless, in patients sufferi from pemphigus or from dermatitis herpetiformis, eosinophil is the rule rather than the exception, as Bettmann, Darie and others have pointed out. The degree of eosinophilia i the blood is moderate rather than great, the coarsely granula eosinophile corpuscles numbering something between 5 pe cent. and 15 per cent. of all the leucocytes in typical cases.

It is worthy of note that the eosinophilia is not in th blood alone, but that the eosinophile corpuscles are als present in the inter-epithelial lymphatic spaces, where the may be seen in the microscopical sections of the skin; and further, that in the fluid of the blebs themselves there ar leucocytes, of which over 70 per cent. may be of th eosinophile variety. It is recorded as a curious fac that, although the fluid in the natural blebs contain so large a preponderance of eosinophile cells, there is n such preponderance of these corpuscles in the fluid of a artificial blister made upon the patient's skin, by can tharides for example.

Herpes gestationis agrees with the other bullous dermatoses in exhibiting eosinophilia. The differential leucocyte count in the case mentioned above was as follows: Small lymphocytes, 11 per cent.; large hyaline lymphocytes, 4 per cent.; polymorphonuclear cells, 71 per cent.; and coarsely granular eosinophile cells, 14 per cent. The significance of the eosinophilia is obscure. There are, of course, three main groups of conditions in which eosinophilia occurs. These are: First, those parasitic affections in which there is constitutional disturbance, notably in patients suffering from ankylostomum duodenale, trichina spiralis, filaria sanguinis hominis, bilharzia hæmatobia, hydatids, and sometimes with tæniæ and scabies, but not with the milder parasitic affections such as those of trichocephalus dispar, oxyuris vermicularis, ascaris lumbricoides, or tinea tonsurans and allied trichophytic affections. Secondly, true spasmodic asthma, in which eosinophilia is found during the attacks but not between them. Thirdly, certain skin diseases, chiefly the bullous dermatoses, as mentioned above. It is difficult to say why eosinophilia should be a prominent feature in these three groups of conditions and not in a great many other affections. It is thought that a poison of some kind is at the bottom of it in the parasitic diseases; that a toxin can produce a local eosinophilia was shown in the Johns Hopkins Hospital where the vascular spaces around appendicular abscesses were demonstrated to be full of eosinophile corpuscles although there was no excess of eosinophile cells in the general circulation. True asthma, however, is usually regarded as primarily a nervous phenomenon, and it is not at all clear why it should be associated with eosinophilia. It may be that there is an unknown poison which starts the neuro-muscular spasm in the bronchioles; otherwise it would seem that eosinophilia may have a nervous as well as a toxic origin.

The eosinophilia of skin diseases has been so little studied that it does not seem to be known whether the blood contains the excess of eosinophile cells before the eruption comes out or whether the bullæ always precede the eosinophilia. If the former were the case, then both the eosinophilia and the vesicles would probably have a common cause, whether that were nervous or toxic. The general opinion is, however, that the eosinophilia *is* the result of the skin lesion, due perhaps to the absorption of something from the skin in a way that would be comparable to the eosinophilia of ankylostomiasis, where there is supposed to be absorption of some toxin from the bowel. This raises the question of the pathology of the bullous dermatoses in general and of herpes gestationis in particular. It seems fairly clear that their causes arise within the body and that the lesions are not due to agents acting directly upon the skin from without. Bacteriological investigations have proved negative, the only micro-organisms that have been cultivated from the blebs being such as are readily explained as derived from accidental contamination from the skin.

Histology.—The actual process by which the vesicle o bulla develops seems to be as follows. There is a local dilatation of the papillary and sub-papillary blood-vessels and an almost simultaneous increase in the quantity of lymph in the spaces around the prickle-cells of the epidermis. The local erythema is caused by the vascular dilatation and the itching is doubtless due to the tension put upon the cutaneous nerve endings by the sudden increase in the quantity of pericellular lymph. There is no proliferation of the cells themselves, such as occurs in eczema, though leucocytes may accumulate in the part by diapedesis. The pericellular lymph goes on increasing in quantity until the protoplasmic bridges between the prickle-cells are mechanically torn asunder; larger and larger numbers of dilated intercellular spaces in this way become united into a single cavity and a vesicle results. If the lymphatic dilatation is spread uniformly over a comparatively wide area, a single large bulla is formed; if within the same area the dilatation is irregularly distributed with several maximum points, a group of smaller vesicles is produced; if the original area of vascular dilatation is small, a single vesicle, too small to be termed a bulla, results. The size of the bleb is therefore to some extent an accident. The depth at which the vesicles form is also more or less accidental; in some cases the fluid accumulates quite close beneath the stratum corneum; in others, so deeply that only the papillary layer separates it from the corium. The transitional layer is the level at which the lymph is able to separate the cells with greatest ease, so that it is here that the vesicle or bulla originates most commonly. The surrounding prickle-cells swell up, become more or less spherical, and assume an appearance which led Professor Unna to term them "balloon cells." Notwithstanding their altered appearance, they still retain their nuclei and their vitality for a long while, though many of them ultimately become more and more swollen and homogeneous, and finally break up.

---

[2] For a case recurring at menstrual periods, see Douglas Bryan, loc. cit.

[3] Herbert French: Eosinophilia in Skin Diseases, Guy's Hospital Reports, 1903.

Allied conditions.[4]—It would not, I think, be surprising if the degree of lymph accumulation between the prickle-cells sometimes stopped short of vesicle formation. Local patches of erythema, accompanied by much itching and even pain, would then be the only features of the disease, and, as Sir Cooper Perry has pointed out to me, there are not a few cases in which women during each successive pregnancy suffer from skin trouble of this kind. The characters of the lesion are then such as lead to a diagnosis of pruritus or urticaria, as the case may be. The relationship between urticaria and vesicular or bullous eruptions is well seen in young children. Infants have so tender a skin that ordinary urticaria in them not infrequently ends in the production of vesicles. Some of the cases of pruritus or urticaria of pregnancy are very probably examples of abortive or incomplete herpes gestationis. It would be very interesting to know whether or not there is eosinophilia in these patients too, but I have not yet been able to make any investigations upon this point.

The changes described above suggest that the trouble arises from there being something the matter within the vessels themselves. It would seem that the trouble is either primarily nervous or else that there is some poison circulating within the vessels at the time. The generally accepted view appears to be that the disease is primarily nervous, in which case it would be analogous to herpes zoster, or more correctly perhaps with factitious urticaria, or with angeioneurotic œdema. On the other hand, by analogy with the urticaria which sometimes follows the ingestion of certain foods, or with the vesicular or pustular eruptions that may follow the administration of certain drugs, such as the bromide or the iodide of potassium, it is at least quite as likely that there is a toxic agent or poison concerned in herpes gestationis. If the disease were purely the result of an angeioneurosis it would seem surprising that the eruption should so often be restricted entirely to the times of pregnancy. It is true that cases have been recorded in which the attacks came on apart from, as well as during, pregnancy, but this is distinctly unusual, and such cases would be termed true dermatitis herpetiformis rather than the distinct variety we are now speaking of. Pregnancy seems to be an essential cause of the latter. The patients are not necessarily of nervous disposition; the lady whose case has been given above was a most sensible woman; there was no history of nervous disorder in her family, nor of nervous shock nor of anything of that kind in herself. Moreover, one cannot trace any hereditary tendency to the disease, such as is well known in cases of angeioneurotic œdema. It is not at present possible to bring forward any conclusive arguments, however, one way or the other as to whether herpes gestationis is primarily nervous or primarily toxic in origin. No toxin is known, but this does not prove that none is present. It is even possible that no abnormal substance is present in these cases at all, but that the patients are unduly susceptible to some compound which is a normal metabolic product of the pregnant state. The idiosyncrasy of some persons in regard to strawberries might be used as a comparison. Most people can partake of this fruit in moderation with impunity, but a few cannot eat a single strawberry without suffering acutely from urticaria.

The pregnancy itself is not interfered with by the skin disease provided that suitable treatment is adopted to prevent pyodermia and to enable the patient to get a sufficiency of sleep. The children are born living and healthy, and it seems that the offspring of a mother who has been subject to the complaint are not particularly liable to any of the bullous dermatoses, nor are the females more liable than others to herpes gestationis. It is, however, very difficult to obtain direct evidence on this point, because few physicians see any large number of the cases and fewer still are likely to pay particular attention to the point in question.

This may, perhaps, be a good opportunity for mentioning a subject which Dr. Lauriston E. Shaw has spoken to me about sometimes—namely, that of the necessity for collective investigations being made upon special clinical and pathological points of this kind. There are many questions which, owing to the smallness of the number of cases that any individual is likely to see, can only be elucidated by collective inquiry. The Clinical Society, the Royal Medical and Chirurgical Society, and other similar bodies have from time to time instituted inquiries of the kind, but for the most part the data have been collected *after* the cases have been seen—from ward reports, post mortem records, and so forth. The very points upon which one wishes information are often not referred to at all in these, simply because the student or other person who wrote the report had not the knowledge or the interest to make a note about it. There are many conditions in which those who, having made a study of the cases up to a certain point, and having come across difficulties upon which they can nowhere find fuller information, could advise others as to special points to be upon the watch for and to pay particular attention to in *future* cases as they come under observation. The selection of the questions that might seem suitable for collective investigation in this way must necessarily lie with those who already know much. Dr. Mahomed when he was alive initiated a system of the kind but it died with him. The anatomists have a list of points upon which collective investigation is required, and in the dissecting room at Oxford there was a book in which were entered certain features of the anatomy of the vermiform appendix in each cadaver that was dissected, in order that by the accumulation of these and of a similar series of records from various other dissecting rooms certain debated points as to this particular part of anatomy might finally be settled. Some similar scheme might be possible as an assistance in settling debated points in medicine a few at a time. It would require a central authority for the selection of the points to be investigated, and the collaboration of all physicians at all hospitals would need to be sought. The central authority would doubtless be a permanent committee of physicians, and if the scheme were feasible at all the selection of such a committee for the direction of collective inquiry into obscure or debatable points in medicine and pathology would best, perhaps, be made under the auspices of either the Association of Physicians of Great Britain and Ireland or else of the Royal Society of Medicine of London. If Dr. Shaw's suggestion commends itself to others it should not be a difficult matter for a beginning to be made.

One might be asked, for example, whether an unmarried lady who had suffered from severe dermatitis herpetiformis previously to marriage would be likely to have still worse attacks of this disease should she marry and become pregnant. There are, so far as can be ascertained, no statistics to help one to answer such a query, important though it might be in some particular case. The general impression that is left upon one's mind after seeing a few cases and reading of as many more as one can find is that dermatitis herpetiformis and herpes gestationis, though in many respects so similar to one another, are yet sufficiently different to warrant the statement that pregnancy is by no means likely to bring on an attack of the former, though almost certain to cause a repetition of the latter. Again, one might be asked whether a patient who has suffered from dermatitis herpetiformis before marriage or from herpes gestationis after marriage would be likely to transmit the tendency to either disease to her children. As has been mentioned, one's general impression is that there is no beginning at the bladder itself, but just above the bladder about the level of the pelvic brim. The second is the fact that the inflammation is not confined to the pelvis of the kidney in these cases, but extends right up into the cortex, as was demonstrated at the operation. And the third is that notwithstanding the existence of large numbers of small abscesses in a kidney affected by an extreme degree of suppurative pyelonephritis of this kind, uræmia in the ordinary sense need not supervene and the patient may recover completely. No doubt it depends to some extent upon the nature of the organism present whether recovery is likely to occur or not, and in these cases it is always, or nearly always, the bacillus coli communis. This organism, however, is usually accredited with particular virulence when it affects parts outside the alimentary canal; and if the miliary abscesses had not been ocularly demonstrated at the operation it would have been difficult, in view of the subsequent complete recovery, to have believed that such abscesses had actually been present. One wonders whether it is as true as it is usually held to be that multiple abscesses in another organ—namely, the liver in suppurative pylephlebitis—must necessarily be fatal also. In view of these multiple abscesses in the kidney getting well it would seem possible, if not probable, that similar multiple abscesses in the liver may get well too sometimes.

---

[4] See also H. Radcliffe Crocker, Lettsomian lectures upon the Conditions which Modify the Characters of Inflammations of the Skin and their Influence on Treatment, Lecture II, THE LANCET, March 7th, 1903, p. 643.

The pathology of the pyelonephritis.—Turning now to the pathology of the pyelonephritis of pregnancy there are certain points that are fairly clear. The cases that have been collected by Mr. Bellingham Smith and others all indicate that previously to the pregnancy there was no renal trouble. It is probable, therefore, that the gravid uterus is a responsible factor in the production of the mischief. It is also clear that the pyelonephritis is not secondary to cystitis, for in practically all the patients the bladder has been healthy, at any rate at the beginning of the disease. Further, it has been demonstrated at the necropsy in some cases, and at operation in others, that there is dilatation of the ureter, beginning about an inch above the bladder. Putting all these facts together it seems almost certain that the sequence of events is: enlargment of the uterus; compression of the ureter against the brim of the true pelvis; consequent difficulty in the ejection of urine secreted by the corresponding kidney; infection of the urine retained in the partially obstructed ureter and renal pelvis; and subsequent spread to the kidney substance itself. The pyelonephritis of pregnancy would thus be comparable in some respects with pyelonephritis due to other causes, such as enlargement of the prostate in man; and just as in the latter case removal of the obstruction tends to cure the renal mischief, so does the birth of the child result in most cases in rapid amelioration and even complete cure of the trouble from which the pregnant woman has suffered.

It is a curious but very definite fact that in nearly every case the right kidney is very much more affected than is the left. In both the patients of whom notes have been given this was so. It is probable that the left kidney does not escape entirely, and indeed there is usually some pain in the left loin as well as in the right, but in the majority of cases the symptoms indicate that the mischief is mainly on the right side. There have been several explanations offered to account for this; perhaps the best is that of Cumston. He states that whilst the pregnant uterus develops its borders come nearer to the ureters, upon which they become pressed. The uterus develops much more to the right than to the left; it also inclines to the right, and besides this it undergoes a rotation on its vertical axis and turns in the direction of its greatest development—that is to say to the right, thus freeing the organs on the left side and exerting a greater compression on those of the right. Be this as it may, the facts that the ureteral obstruction begins at the level of the pelvic brim, that it is in some way due to the pregnant uterus, and that the right ureter is as a rule more obstructed than is the left have been repeatedly demonstrated.

Seeing that partial stenosis of the ureter by the pregnant uterus is generally regarded as the essential predisposing factor to this kind of pyelonephritis, it might very well be suggested upon theoretical grounds that the illness ought to be much more common and much more serious in those who have deformed and particularly contracted pelves and in those who have pelvic tumours, such as uterine fibromyomata or ovarian cysts, in addition to their pregnancy. These complications have existed in a few of the cases and theoretically they should play an important part in the pathology of the condition. Nevertheless, the existence of pelvic tumours or the like with pregnancy is by no means essential, or even common, as a cause of the pyelonephritis. The cases recorded have almost all had normal pelves and normal pelvic organs. The disease is therefore one which may arise in otherwise healthy women.

In regard to the question of whether a woman is liable to it during her first or a later pregnancy, opinions differ. It seems quite clear that the first few pregnancies may be quite uncomplicated and yet that pyelonephritis may develop during a later one; several observers lay stress upon its occurrence in primiparæ, but the truth seems to be that it may arise during any pregnancy and that in the differential diagnosis no stress can be laid upon the fact of the patient being a primipara or otherwise. It is clear that if obstruction to a ureter is an essential factor in the disease, the trouble is not to be expected in the earliest months of pregnancy. This is borne out by the cases themselves. The pyelonephritis may not appear until quite late in the pregnancy, but in the typical cases the mischief begins about the fifth month, as in the two cases described above.

The bacteriology of the pyelonephritis.—The bacteriology of the condition is very constant. In all but a very few of the recorded cases the organism that appears in cultivations from the purulent urine has been the bacillus coli communis. It has nearly always been in pure culture. Mr. Bellingham Smith found it in seven consecutive cases, and in only one case, recorded by Vinay, was the mischief attributable to another micro-organism—namely, a streptococcus.

There is some difficulty in determining the route of infection; this applies, of course, not only to the pyelonephritis of pregnancy but also to the similar suppurative lesions that may ensue when there has been residual urine in the bladder for a long time, even though no catheter or other similar instrument has ever been passed. The three paths by which the micro-organisms might, it may be supposed, reach the kidney are: first, from the bladder, ascending by the ureters; secondly, by the lymphatic vessels; or thirdly, by the blood stream. It must to some extent remain a matter of opinion as to which of these three paths is the more usual in these cases. Personally I agree with Mr. Bellingham Smith in thinking the blood stream the more likely route of infection, his arguments being as follows. Whereas it is true that, as Opitz urges, the female urethra always contains organisms and that the bladder in pregnancy is very liable to cystitis, nevertheless there are two objections to the view that the path of infection in the pyelonephritis of pregnancy is *viâ* the bladder—one anatomical, the other clinical. The anatomical objection is that the ureter in these cases is dilated, not in its whole extent, but only above the brim of the pelvis; the valve-like opening of the ureter into the bladder, which normally protects the former from infection, is still present and in perfect working order; there is no dilatation of the vesical end of the ureter, such as to cause a free communication between the latter and the bladder, and consequently there is no free path for the ascent of organisms from the bladder into the ureter. The clinical objection is still greater. The chief feature of pyelonephritis in pregnancy is the presence of pus in the urine without any symptom pointing to cystitis. None of the cases under discussion have afforded any evidence of preceding cystitis and cystoscopic examination in the severer of the two cases of which notes have been given showed that the bladder was perfectly healthy. There are no doubt other cases of pyelonephritis secondary to existing cystitis, the symptoms being aggravated by the existence of pregnancy, and in such cases the path of infection would doubtless be from the bladder just as it might be in a non-pregnant person; but in the cases of pyelonephritis under discussion there is no cystitis, pregnancy is an essential factor in the disease, and it seems unlikely that the organisms reach the kidney by ascent from the bladder.

Infection by the lymphatic vessels is very difficult either to prove or to disprove and there is little or nothing that can be stated definitely about it. Infection by the blood stream, on the other hand, is possible, and, if the vesical and lymphatic routes can be excluded, even probable. Experiments have been made on animals in which after artificial stenosis of a ureter purulent nephritis followed injection of bacillus coli communis cultures into the blood stream. Moreover, it has been shown that the healthy kidney sometimes excretes micro-organisms such as tubercle bacilli and typhoid bacilli in patients and animals who are suffering from an apparently local tuberculosis or from apparently uncomplicated typhoid fever. In these cases the micro-organisms have presumably reached the kidney in the blood stream, and if tubercle and typhoid bacilli can do so it would not be surprising if the bacillus coli communis did so too. The healthy kidney would eliminate the bacillus without itself suffering. The existence of stenosis of the ureter might well cause the urine containing such bacilli to stagnate long enough to allow of infection of the walls of the passages, even without supposing that there was diminished resisting power in the parts owing to the obstructed outflow. The ease with which the bacillus coli communis can reach the blood stream is well known from post-mortem examinations, where cultivations from organs situated far from the bowel nearly always yield this micro-organism in cultures made soon after death. It is held by some that a similar escape of the bacillus coli communis from the bowel into the blood stream can occur during life, particularly when there are abnormalities in the functions of the alimentary canal.

This raises the question of whether the pyelonephritis of pregnancy can occur when there has been no abnormality in the intestinal functions, or whether, in addition to pregnancy and partial stenosis of the ureter, some error of the bowels, particularly constipation, is essential to its production. This is a very difficult matter to decide. It is very certain that a great many pregnant women may suffer from constipation without any other deleterious effects. Nevertheless, granted that a patient were on the verge of developing pyelonephritis, the existence of severe constipation might very possibly cause a certain number of colon bacilli to enter the blood stream and thus prove to be the final or determining factor in the illness. This seems to have been the case, for example, in connexion with the second patient described above; always very costive, she was suffering so much from constipation just before the pyelonephritis set in that she could only get her bowels to act by the use of repeated enemata.

The effect of the pyelonephritis upon the pregnancy.—A number of questions arise, to each of which the physician may be required to give an answer if he can. Amongst these are the following: To what extent does the pyelonephritis interfere with the course of the pregnancy? Is it likely that the child will be born dead? Seeing that pregnancy is a fundamental factor in the pyelonephritis, ought obstetrical measures for the termination of the pregnancy to be advised? Is the time of labour one of special danger? Is the patient particularly liable to uræmic symptoms? Is there any relationship between pyelonephritis and puerperal eclampsia? Is the condition likely to be completely cured after labour, or is a residuum of kidney inflammation to be expected? Is the patient very liable to have a recurrence of the pyelonephritis in a succeeding pregnancy?

It is only by a collective inquiry, in which mild as well as severe cases are included, that conclusive answers can be given to these questions. Under present conditions it is dangerous to base opinions upon published cases only, because those which are thought worthy of being published are often not the ordinary cases but rather those which present points of special interest. On the other hand, an individual can scarcely hope to meet with a very large number of cases himself, so that until records of consecutive and unselected cases can by some means be gathered together it is only possible to base one's opinion either upon recorded, and therefore selected, cases or else upon the few cases that one has oneself watched.

It would seem that, diagnosed early and treated by confinement to bed with antipyuric remedies, the condition usually tends towards resolution, notwithstanding continuance of the pregnancy. Moreover, in the majority of what may be called cases of ordinary severity the pregnancy is not particularly apt to come to an end prematurely. The children do not show any special liability to die in utero and the mother is not subject to uræmic convulsions at the time of labour. No doubt there are individual cases in which the illness is so severe that it might be wise to advise relief to the ureteral obstruction by the use of obstetric measures for emptying the uterus. The kind of case in which this might be the best course to follow would probably be one in which the renal mischief had set in with severity during the earlier months of the pregnancy and had then persisted for a month or more without abatement in the symptoms, notwithstanding all the medicinal treatment available. Such cases as these are distinctly the exception, however. The majority of the patients require the adoption of no obstetrical measures for the time being. Treatment upon purely medical lines, by absolute rest in bed, light nourishing diet, laxatives, and such drugs as are known to benefit pyuria, begun early and carefully followed, will usually relieve the patient of her untoward symptoms comparatively soon—that is to say, within three weeks or a month. The pyuria will often persist for a month or six weeks after the patient herself feels quite well, and unless considerable care is observed a relapse is apt to occur before the pregnancy reaches term. Repeated microscopical examination of the urine is therefore essential, and medical supervision is required as long as any pus is present. Eclampsia is not to be expected and the patients nearly always get perfectly well of their pyuria after the child has been born.

It would not be at all surprising if similar pyelonephritis were to recur in succeeding pregnancies, and cases are on record where this has actually been the case. This is not the invariable rule, however. If the pyuria is completely cured after one pregnancy, and care is subsequently taken to insure that there is neither constipation nor diarrhœa such as might predispose to invasion of the body by the bacillus coli communis from the intestines, it is quite possible for a succeeding pregnancy to pass by without any symptom of pyelonephritis at all.

In conclusion of this lecture, stress may well be laid upon the fact that the pyelonephritis of pregnancy may easily be mistaken for something else. The milder cases may be regarded as simple pain in the back, as lumbago, as influenza, and so forth; severer cases may be thought to have pneumonia, pleurisy, or the like; the most severe cases may be diagnosed as appendicitis or as some other intra-abdominal condition. The main symptoms of the disease are backache and pyrexia, with or without headache, vomiting, or rigors, and unless the urine is carefully examined for pus corpuscles the real cause of the trouble might readily be overlooked.

A Lecture

ON

THE SPECIAL PSYCHOLOGY OF WOMEN.

Delivered at the Institute of Hygiene on March 10th, 1908,

BY THOMAS CLAYE SHAW, M.D. LOND., F.R.C.P. LOND.,

LECTURER ON PSYCHOLOGICAL MEDICINE AT ST. BARTHOLOMEW'S HOSPITAL, LONDON.

LADIES AND GENTLEMEN,—By psychology we mean the mental processes in their subjective and objective ramifications, what they appear to be, or should be, to the individual, and what they are, or should be, to the external world—to society in all its gradations. To speak on this subject presupposes that one has, at least to some extent, such a share in the form of mental action as will justify the audacity of criticising what can only partially be experienced. This would be easy enough in the uni-sexual mind, but women are women and men are men, and though there are points of resemblance, both in bodily and mental structure and function, there are yet such profound differences that the one must always be a puzzle to the other. We may be able to say what women ought to do, but that we find them acting and talking very differently merely proves that we have not correctly estimated the factors upon which their motives have been formed, and since a complete fusion of intellects is not possible the psychology of women must always remain a paradox to men. It is a different form of mind that we are asked to appreciate, and it is no more possible for the mere man to predict what the mere woman will of necessity do than it is for the timid person to understand the *audace* of a lion-tamer or for the rat-catcher to flee at the presence of a mouse. And yet this dis-association of mind in the two sexes is not a complete one; there are many common features. There are men of whom it may be said that there is much of the woman in them and there are what are called masculine women who seem to be composed largely of the attributes of the male mind. We shall see that much depends upon education and environment and that except in one particular direction there is in reality little difference between the two classes of mind—that one may be complementary to, or may largely replace, the other, and that it is quite feasible to suppose a society in which, *quâ* mentality, the position of the sexes was reversed; indeed, such a state of things did exist in the old Basque provinces, where the judges were women and women exercised the suffrage!

Up to a certain point there is little, if any, mental difference between the boy and the girl. Except for dress it would be difficult to tell one from the other, and perhaps also of environment, and in these days the conditions of the latter are so similar in the sexes that until the parting of the ways (the changes at puberty) there is no distinctive mental difference between the sexes—the one might sit as understudy to the other, either in work or play, and no one would be the wiser. Granted that differences in dress at an early period and separation in domestic arrangements do tend to make the child recognise that *he* and *she* are in some way different, this is entirely an artificially grafted idea and in no way affects the position that at first and for a long time afterwards the mind of the one is the mind of the other. The boy and girl are each others' playmates until at puberty a marked change in their relations to each other occurs—he who was up to then the trusted *alter ego*, treated with confidence and in a spirit of equality, is now viewed as an objective of a very different character, he is a person to be kept at a distance, to be treated with reserve and regarded with suspicion, and this change of relationship is more or less fostered and maintained for ever afterwards: life from being asexual becomes bisexual.

What grounds are there for saying that woman is inferior to man? What is the local sign of inferiority? Hitherto it has been shown chiefly by submission to authority, a smaller range of idealism, a more delicate and therefore less strong bodily organisation. There are other signs, but I will [illegible] the three named as representative of the general rela[illegible] of the sexes in the past, just to point out that under [illegible] conditions of education and environment these [illegible] of "inferiority" have almost disappeared. The [illegible] is that women are not inferior to men; they are different from them, scarcely perhaps comparable, *in some faculties* superior; and to talk of "inferiority" is like comparing two masses of different composition and calling one inferior because it is not so large and gross.

In old times brute strength or force was the sign of superiority, so the woman was in this particular inferior; she had to stay at home chiefly because of family duties, more especially with relation to the children. Naturally, too, she was kept out of the State deliberations and her intellect had no chance of developing. Therefore she had to protect herself and this she could do only by intellectual or mental means; hence she would seek out the weak points of the man in order to enlist him on her own behalf, to which end she would employ ornaments, scents, flattery, particular enticements, &c., all calculated to appease his wrath and to retain his protection. The childless woman would come to be viewed as useless to the tribe and as a dangerous person, because she was of no use to the commonwealth, and, moreover, having more leisure, she would perhaps become revolutionary, hence she would be suppressed, and so the laws enforcing the subordination of women became very strict. How it ever came about that women were elected rulers of tribes was probably due to the fact that by accident there was no male survivor and that any opposing male faction was overcome by the adherents of the old house who were probably bribed to support it. As long as the interests of women were not antagonistic to those of the men this "inferiority" continued and would most likely have still continued had it not been for dissensions among the men themselves. Influenced by this or that a section more favourable to women would be formed and by constantly driving in the wedge women succeeded in establishing a place for themselves. When men ceased to hold women on a curb these soon got to resent even the snaffle, until at last they bid fair to go on their own untrammelled way and there is now rampant the positive enmity of strife, the position of the tyrant man being gradually forced and much of his so-called privilege curtailed, shared, or even abolished. The delay in taking a fortress does not necessarily show "inferiority," it may only mean that time is required or that all the assailant strength has not been put forth. Argument from the animal kingdom is perhaps scarcely to the point for our purpose because of the development of the upper and higher brain centres in human beings, but in some respects human beings and animals are alike, for in both the different sexual conditions bring about the same class of results; the mal animals fight for the females, so do men. The femal animal shows courage and devotion for its offspring, so does the woman; the animal cares nothing for its father (probably never sees him) and nothing for its mother after the period of suckling is over, and so it would be with a man were it not for the development of the intellectual centres; the animal in distress never thinks of its parents, the child in distress still expects his parents to protect him, and the young man who wants money knows that the mother does not live who, having in early days nourished him, would ever refuse her last coin or jewel to help him.

Women, being of less powerful muscularity than men, have to protect both themselves and their children by artifice. Woman is a prize, but as there are many candidates for the prizes she has to resort to artifice to obtain the victory of marriage. She has to fight just like the man has, but she does it in her own way. Hence she is deceitful, both in dress and presentation; at times she hides her charms, at others she exposes them. She resorts to false hair, to false teeth, to face powders and lotions, to beauty preservatives, and to ornaments. These are decoys and must be considered fair game. There is always an excuse for these periods of rejuvenation; they connote conditions of health. If artificial teeth conceal imperfections they also aid digestion; if "transformations" cover up baldness they also prevent cold; if face powders hide blotches and wrinkles they also prevent irritation of the skin; whilst face massage promotes a return to plumpness and resiliency. As to ornaments, the use of them, except as signs of the possession of wealth, or as the parade of ancestral relics, or as significant of official dignity, is not so clear; certainly they are very useful for purposes of trade. It is said that diamonds are irresistible to the female mind. May this always remain so. Think of the awful cataclysm that would ensue if women changed their views with regard to diamonds! But for this female passion the Boer War need never have been fought, and without its diamonds South Africa is practically useless. The "superfluities" of life are as important as the "necessities"; in fact, the commercial value of "expensive tastes" is a large asset and without these many working industries would be crippled. Just the same holds with regard to dress. The frame of the body is practically made of three triangles and there is a definite mode of covering adapted to each. At first (as is even now the case in some places) there was no clothing at all, but owing to two conditions—viz., climate and imperfections—dress or covering became a necessity, and then as affording opportunity for the display of wealth and superiority it developed into luxury. Where, as in the case of *religieuses*, it became necessary to subordinate the altruistic to the selfish and to the purely ideal dress was employed to conceal entirely the figure and form, even the face was hidden, and the veil of to-day is probably the trace of this. Dress, either as a protection against the weather or as an opportunity for hiding or displaying the curves of the figure, is so important a factor in the life of a woman that the prominence she gives to it is easily understood; it is a necessity that she shall show herself off to the greatest advantage and not pure vanity. Women have various objectives in dressing as they do, perhaps they inherit tendencies in this way and would be at a loss themselves to account for their feelings and ideas in this direction. There is truly a psychology in clothes and it is useless to say that women dress to please men or to excite the jealousy of other women, they just dress in their own way because they have to and for their own satisfaction, and though precept and environment may count for something there *is yet* the idiosyncrasy of the woman behind it all. She may have any number of new and fashionably cut clothes but she appears in a garb which her friends cannot understand. Why? Because of a mental trend which cannot be reduced to rules and society codes. The psychology of dress is that it makes you think that you are what you profess to be. That is why the common soldier is never allowed to appear except in uniform and why the priest always wears his black clothes and white tie. The mind of the insane is on the same psychological basis as the sane persons. I have known female lunatics who had delusions of "position" don on special occasions ("collar days") such jewels and ornaments as they could lay hands on, glass set in string or wire for rings, scarlet Turkey-twill sashes, Orders of the *Garter*, conspicuously displayed, in all respects like the orthodox social models.

The consideration of the psychology of women is perhaps best based on an analysis of what are called the elements of mind—here we shall see that in some respects they are in a plus, or positive, state, in others in a minus, or negative, condition. A good deal has been made of the assertion that the brain of the man is heavier than that of the woman, but Marshall showed that by comparing brain weight with the stature in the two sexes the weight (of brain) for each inch was 0·708 in the male and 0·688 in the female, this difference being entirely due to the preponderance of cerebrum in the male, and that if the other parts of the brain are taken it was identical in the two sexes. He showed that tall persons have relatively less brain substance than short ones and that if the height in inches is divided by 1·6 the weight of the brain in ounces is obtained. Then, again, we know nothing positive about the relative qualities of the brain in the two sexes and no one can tell under the microscope whether he has a male or female brain to deal with.

The mental faculties (to use a term which is not altogether defensible) may for practical purposes be divided into—

Sensation; perception; memory; feeling, emotion and sentiment; and ideation and conation { attention,
impulse,
will power.

We cannot prove either from anatomy or physiology that any one of these "faculties" is, or should be, greater or less in women than in men. We can only judge by experience and analysis that whilst in some of these divisions women are practically of the same intensity and quality as men, in others they are either excessive or defective, but pray bear in mind that this is only empirical or experiential knowledge, and that the estimation varies according to the personal equation of the investigator. As to sensation, the quantity and quality seem to be about equal in the sexes, except that the sense of smell is perhaps more acute in women, probably because in men the nasal mucous membrane is blunted by snuff and tobacco. One always notices more open windows in carriages occupied by women. Perception (or the knowledge of what is implied by sensation) is probably the same in the two sexes. Memory—equal, whether as purely abstract memory or as the result of association. I believe that on the stage women are more word-perfect in their "parts" than men are, but there are reasons for this apart from the question of pure memory. In imagery or ideation the range may be as great in one sex as in the other. How often does it happen that in the highest flights of poetry, in questions of abstract mathematics, in the application of scientific theory, in romance, in practical government, we find the woman just as prominent as the man. In the departments of feeling and emotion and in the conative section it does, however, appear that women differ materially from men. To feeling and emotion they are especially susceptible and they seem to be more liable to act upon impulse which in itself proves want of inhibition. The real origin of feeling (sensation) and emotion (ideal or intellectual) is doubtful. There are different theories on the subject of it. According to one we are sad because we cry; according to another we cry because we are sad. The former make the feeling or emotion secondary to the muscular and organic (heart, lungs, &c.) display, whilst the latter make the emotion the primary condition, the display of the emotion being actually secondary to the sensation or feeling. Certainly, whether on the stage or in real life emotion and its display are far more conspicuous among women than men, and it would seem that there are special reasons for this.

The latest conclusions point to the basal ganglia as being the most intimately concerned with emotional display and these appear to be relatively larger in the female sex. If pain and pleasure be taken as the equivalent for sensation, we may say that joy and sorrow correspond with these in the realm of emotion. Moods are more permanent states of mind than emotions proper, and violent emotions are termed "passions." Now these emotions have an objective and a subjective side, and those who are strong on the one side usually show strength on the other; and joy, like sorrow, assumes different forms according to the direction which it takes—though, by the way, we have not nearly so many words to express joyous emotion as we have to express sorrow. Thus like and dislike are the most general forms of objective emotion corresponding to joy and sorrow on the subjective side. Sorrow directed upon the object which excites it is called "care"—we can only be full of care about others; when subjective it is "melancholy." One theory is that pain and pleasure, joy and grief, represent just what is harmful to us and what is of advantage, that therefore we recognise that when enduring grief or sorrow we are in a mental condition analogous to pain on the bodily side. If so, pain and grief may be conservative to both body and mind; as long as they are there we know that something is wrong and we must strive to remedy it, just as insomnia calls our attention that there is something lacking in the periodic return of rest, and that therefore it is a sentinel to warn us that we must be on the alert to find out where the mischief, of which the insomnia is the sign, lies. Now what is the object of emotion? Why is it so important in our mental category? There are people who pride themselves upon never having feeling or emotion; they say that nothing moves them, they are impassive, never excited, never depressed, everything that occurs is to them a matter of course, and from their altitude of serene indifference they behold with a sort of neutral contempt their more demonstrative congeners. Premising that they are correctly describing their subjective states the condition is not one to be envied, for it is the mental attitude of the degenerate and the imbecile, who scarcely know what feeling and emotion mean except in the very lowest degree. The expression of emotion is both conservative or protective (when it is essentially reflex) and deliberate. The first glimmer of intelligence in the infant is the smile responsive to that of its mother. Is it not well that the dawn of intellect shall be heralded by happy auguries? And in the bodily and facial expressions of fear or of anger the woman appeals in the only manner possible to the protection or sympathy or other mental states of the man.

Two very prominent emotions among women are obstinacy and sympathy. It is obstinacy which comes to her aid when she is beaten and it often makes her illogical, not that the woman does not see that she is wrong but that being used to conservancy she wishes to preserve intact the stand she has taken and therefore she argues that by persistence she can wear down the attack, and as she knows from former experience that defence is useless without attack she is not only obstinate but recriminative. The wise man knows—or ought to know—that a woman's obstinacy is merely the evidence of the strength of his attack and probably of the successful issue of it, and noting this he should not blame the woman, for it is often her only rampart. It is at times best to concede gracefully the point at issue and to let her march out with the honours of war. In sympathy we note a device for setting up in others a frame of mind similar to one's own, so that what is wished for may be gained, or else a desire to enter into the feelings or mental attitude of another person so as to ascertain, if possible, the object of these others in pursuing a certain course of action, or else by showing sympathy to make it evident that they agree with the opposite party, an agreement which will be to the benefit of the sympathiser certainly in that the feeling of support is stronger towards those who think in the same way—and the forms which sympathy takes vary according to the motive of the woman. It is now of the gentle, soft, and low-voiced form (so excellent a thing in woman, as King Lear said); at another time it takes the martial, active, strident type necessary to harmonise with and complete the unity of mind the *vis viva* of which it is sought to obtain. The suffragette question is perhaps the best example of the extent to which these two emotions of obstinacy and sympathy will carry women. Their wonderful obstinacy is due partly to a sense that there is really no good reason why they should not have a vote if they wish it, partly to the idea that they can by this same obstinacy break down the opposing strength (for it is really a fight for freedom from the restraints of the majority), and by their powers of objective sympathy they endeavour to arouse corresponding emotions in their antagonists. They see that a few men are (or say they are) in their favour and so they appeal to these traitors in the camp in the hope of spreading disaffection, for they know that they can only get what they want by the consent of men, and as the authorities seem determined not to let them have it, there but remains to view the present position of the suffragist as a necessary consequence of her mental equipment. We notice that pain and worry on the subjective side beget sympathy towards others. Women are more sympathetic than men because physiologically they have to endure more—the community of bodily pain and mental worry is plus or positive on the woman's side, and in this way they have more sympathy. Sympathy is never true without experience; it is the endeavour to give external support by making others believe in the reality of what they are saying or doing—it is, indeed, a form of flattery. Another plus-emotion in women is jealousy. *Women having appropriated* the male element do not mind how the latter deals with them as long as he does actually confine his attentions to them. Jealousy implies the rankling sense of inferiority, that something is *lacking in their attractiveness* or in their duty. It is jealousy which prompts to violence and to murder more perhaps than anything else (except drink), and arising as it does from one of the earlier and lowest developed parts of the brain it *partakes more of the nature of an instinct*—i.e., that of self-preservation—and therefore it should always be gently estimated. The only way to overcome the feeling is by education and the use of the higher brain, but in the capacity to do this is just where the lower grades of society fail, hence crimes due to jealousy are more frequent in them.

A great deal is said about women's desire for amusement, as if it was a special *proprium* of the sex. Is this so? I do not find that where women have plenty to do they require an inordinate amount of it. Given strength of body they naturally must expend their neuro-potential, their energy, in some way, and of course they naturally take the easiest way. So do men when they have no work to do. It is said that nowadays women do not care to have large families because they want to enjoy themselves, but it is probably the other way about: it is the want of families that drives them to seek amusement, and yet though we ought to admire the efforts they make to employ themselves there is an advantage to others when women choose to enjoy themselves, for they irradiate brightness to others. Often the so-called "enjoyment" is merely hard work to avoid *ennui*, and the women who grizzle because of the distaste for, and decay of, home life in their daughters, which makes them always on the rush for going away, for visiting, or playing hockey or tennis all day, should remember that it is chiefly because the home life is conducted in a dull, monotonous, cramping, and enervating spirit. Still, there must be some butterflies, and the woman beautiful, the well-dressed, the decorated and adorned, she who apparently has nothing to do but to be gracious, must not be deemed vain and useless—she is fulfilling a part in the order of nature as surely as her more humble sister in the sombre hues of workaday necessity. That these bright creatures work hard in their own way ought to be appreciated, see what privations, what training, what fatigue, have to be endured to maintain the rôle. Health is a very good thing, but it requires hard work to maintain, as well as restraint. There is one phase of emotional expression which has strong bearing on one of the most distinct of all the emotions, love. I refer to this that especially among the upper classes expression of emotion is either a thing of the past (it being thought "bad form" to show what is thought or felt) or else it is purposive or is relegated to the province of the actor. There is, however, no doubt that the emotion may exist without any external sign, and perhaps women suffer from this repression. What a relief expression gives to an emotion. How painful almost to bursting-point is the effort to suppress it. Men confess to difficulty in understanding the action taken at times by women in the presence of this particular emotion. They may show the greatest nonchalance when they are feeling the most strongly, and without doubt by enduring they may imperil their chances of success. Well, they prefer to take the risk. The clue to this seems to be partly due to the instinct of self-preservation, waiting to see how real the feeling of the opposite party may be, partly to the idea that the ardour of the attack is generally in *direct proportion to* the resistance, and partly to self-conceit or pride. There may also be the idea of the unreality that often attends emotional display.

In considering woman's rôle in the conative faculties—voluntary power and impulse—I will say that we know of only one reason why they should differ in quantity and quality from what they are in the male, and that is the possible excess in development of the very highest centres in man, which on evolutional lines are the last developed and the most inhibitory. But as a matter of observation we (men) have come to the conclusion, rightly or wrongly, that they are more impulsive and less inhibitory than men are. Perhaps this is true, but if so I think that it is a condition due mainly to circumstances and to education and that the balance will or may be as fully established in the one sex as in the other. Impulsive conduct is the most simple form of voluntary action; it occurs in the young whose higher inhibitory centres are not yet developed, in the degenerate where they never can be developed, and to some extent in people who have to protect themselves and their children, and it is indeed very like the action of instinct though not altogether like it. True, voluntary action means the balance of motives; it is a higher and later development than is impulsive action; it is a higher educational phase and is, therefore, in accordance with the laws of development, the first to go when decay sets in. If it is true that women are invariably more impulsive than men it would point to this, that in general the female mind is not of so evolved a type as the male, but the potentialities for complete inhibition exist in the one just as much as in the other, and any "inferiority" in this particular, if, indeed, it exists at all, is accidental and may in time with education be compensated. Feeling or emotion enters very largely into the composition of voluntary and impulsive action and therefore we have good reason for concluding that women in whom the emotional factor is strongly developed must show strong impulsive and voluntary action.

Our analysis has then led us to the conclusion that woman has some advantages and some hindrances. She is very *quick in perception and unfortunately (at times) is quicker* in action: thus excessive impulse helps her in protecting herself and her children; it, however, at times lands her in awkward circumstances.

It is often asked, "What have women done in advancing science?" Well, they have only just begun to study it. In idealism in writing they have equalled if not excelled men. It is often difficult, where no names are given, to say whether the book is by a male or a female author. When I was examiner in psychology at the University I could not tell the sex of any of the writers of papers either from the handwriting or from the matter, and it often turned out that on getting the name corresponding to the number of the candidate I was mistaken. In the rôles of life women have prejudice and long oppression to combat but except from the way in which they are handicapped sexually there seems no reason why they should not do men's work just as men may do women's work; in fact, the terms "men's and women's work" should cease. Generally speaking, what one can do the other can also.

Cruelty in women.—If the *proprium* of the woman is to have and to bring up children she must be on the look-out for anything likely to hurt them; hence her indifference to the welfare of others as long as they stand in her children's way, and this makes her possibly cruel; moreover, if she is disappointed in the way her own children turn out she may turn against them and be cruel to them. For this reason married women are very *patriotic*, for patriotism is based upon the desire to protect our own from the intrusions of the alien. Self-interest due to inherent weakness must engender craft, obstinacy, cruelty, recklessness of means to secure an end, personal adornment (to attract), quick perception, action on impulse and, if necessary, artfulness and the capacity for waiting until success is assured. If for a moment one turns to the mode in which insanity shows itself among women as compared with men, one finds that[1] it is characterised by excess in women, of impulsive acts, of tendency to suicide, of destructiveness.

What is the psychological future of women? They outnumber men, they are taking on the occupations of men, they cannot all be married, and as much of one (the chief?) side of their nature cannot be developed their complete psychology must be impeded. Polygamy cannot be thought of: it entails too much hardship and loss of freedom. Free love is out of the question. They will become abortive both in body and mind and will be a different thing from what we now know. They will develop certain aptitudes which they may happen to possess and therefore will become notable in certain ways of intellect and work because their environment will become extended. I see no limit to their occupations, and if by dint of obstinacy they do get into Parliament they will first participate in and then monopolise; they will by sheer weight of numbers bring about such social conditions that a revolution will ensue—the men will turn and rend them. The married woman instead of being looked upon as the honoured and favoured one will be voted by single sisters as an impediment to her plans for subverting the position of the sexes, and I think that the married women see this and therefore they take side against the propaganda of the suffragette, against education, against professional women, because they see that it leads to the loss of the sex-mind and tends towards their socialism—it is just a form of slighting or disappointment. The repression of the sexual element of mind in the woman leads to a nondescript creature whose instincts are abortive and whose life eventuates in selfishness.

---

[1] See article, The Sexes in Lunacy, St. Bartholomew's Hospital Reports, vol. xxiv.

So then some of the elements of mind are more or are less developed in women, but there is no special feminine element, no factor present in one sex which is without counterpart in the other. The sole difference is the separation of the sexes and of some attributes specialised through this.

The fusion of the two sexes in one individual does not exist in the animal world: it would be too risky, it would lead to effects disastrous for the young. In the same way the fusion of the two qualities of mind in one individual would lead to a negative conduct. It is only poets and novelists who have made women mysterious by intensifying (caricaturing) the action of the mind-elements. It may be difficult to guess all the motives which result in a certain course of action, but when once explained (as they often are only *after* the event) the results are seen to be the things which only could have happened. The form of brain action is identical both in men and women, sane and insane. The household—the family life—represents the unity of life, and the happy and well-ordered family represents the harmonised incorporation of the two minds and bodies. But these small commonwealths are moulded on an equation formed by two elements selected and adjusted to each other, and they will not brook anything except modified interference and that by force and law. It is probable that mono-sexual judicial authorities are alone tolerable because the presence of the other would arouse the affinity-element and this would lead to a unity of conclusion not always in the best interests of the majority. As to occupations it does not matter whether the two sexes are represented or not, because the employing of either is quite a voluntary matter, but for imperial purposes mono-sexual predominance seems requisite. This mono-side may, of course, be the female. Hitherto the men have been the stronger and have held the position; let the women take it if they can.

I have tried to prove that it is the sexual element which has handicapped the woman, which is accountable for any peculiarities of a distinguishing and repressive nature; that were it not for this there is practically no difference between the potentiality of the two sexes. But what a world it would be if there was only one mind in a bisexual race? It would be a short-lived and uninteresting world. There would be no object in striving, no economy, no altruism, no ambition, no patriotism. See, then, the influence and the importance of the continuation of the species!—how it becomes a duty: without this element we have nothing but idealism, braininess without emotion, a class of mind we cannot conceive any more than we can imagine what the future "heaven" must be where they "neither marry nor are given in marriage," a sexless, spiritual existence.

As the sexes have developed in different ways, so have the accompanying mental and bodily divergencies become emphasised; from not fighting the woman has become more timid and less assertive, but she has developed invective and persuasion, and now that she has strength of numbers she is developing force. The man is perhaps more compliant, he has up to now shown the chivalry of strength, he was always willing to avail himself of women's help, and in these later days he shows it by marrying for money. Why are women so up in arms against *being married* for their money? One generally finds that the men who marry women with money are of all husbands the most docile owing to the sense of dependence. Perhaps the fact that women have not always had money has tended to make them dependent, afraid to contradict, more obedient, less assertive; but now that the position is so often reversed we see that the real mind in the sexes is the same altered only by social necessity and environment.

People run away with the idea that mind in either sex is something very complicated, very profound, and very different in kind according as we see its *manifestations* in the man or the woman. This is a mistake. As a rule, thinking is a very simple thing, scarcely more than a reflex. Wundt's dictum is that the old metaphysical prejudice that "man always thinks" has not yet entirely disappeared. "I am inclined," he says, "to hold that people really think very little and very seldom." Many an action that looks like a manifestation of intelligence most surely originates in association. People talk about "work" as if it were the *proprium* of one sex not to be aspired to by the other, whereas there is no work peculiar to the one or the other. Everyday work is just a matter of little brain necessity; it may be a "bother," a "bore," but it involves little beyond reflex mentality. One sex might carry on the work of the world just as well as the other. Left to itself without work or occupation mind degenerates into subservience to the body; the man or the woman with nothing to do spends the time selfishly, cultivating the appetites, tending to introspection. Insomuch as there is any difference between the minds of the woman and the man it becomes an interesting puzzle to the one to guess what is going on in the other. When from force of training and similarity of environment it is seen that the minds are essentially similar then interest disappears and life becomes monotonous.

It is for women to say which they choose, whether they will still prefer to retain the position which long education and environment have given them, with the result that there is a difference which makes them the sought and desired companion of the man, or whether they will prefer the form of training and environment which, whilst it shows them capable of equalling the mental aptitudes of the man, reduces them to the mere question of being a physiological necessity. That the *weibliche* should remain the *ewig-weibliche* is, I think, the hope of the man and it would seem to be the happiest thing for the woman to lay this in its essentials to heart and to be satisfied with her position of a freely-accorded honour and devotion. Men expect in women something complementary to themselves, something to fill up their own sense of incompleteness, and they experience a feeling of disappointment when they see that women try to prove that after all there is no gap. Men want a *locus penitentiæ*, another phase of mind which shall enable them to idealise and to realise these ideals, because they feel that after all analysis, after all attempts to prove that the one sex is practically the other, there is something which they miss when left to themselves. There is something inscrutable in what seems to be the natural instinct of the man to assume that the woman is really the weaker vessel, that therefore she must be treated with consideration, with reverence, as a thing to be cherished, that there is a mystery about her which he cannot penetrate, and it comes to him as a shock to find that in these modern days she insists on considering herself to be the same thing as himself. He has hitherto viewed her not merely as a companion or a nurse or a plaything but as something different which he might worship and cherish without thought of rivalry, which he might yield to with grace with no loss of dignity on either side. Is it worth while to destroy his illusion? Is he now to find himself mistaken? Surely women will hesitate before they exchange the invincible armour of mystery and charm for the naked and tame theory of equality and similitude!

OPHTHALMIA NEONATORUM: AN EXPERIMENT IN TREATMENT.

BY A. NIMMO WALKER, B.A., M.B., B.C. CANTAB.,
M.R.C.S. ENG., L.R.C.P. LOND.,
ASSISTANT SURGEON TO ST. PAUL'S EYE AND EAR HOSPITAL AND TO THE SCHOOL FOR THE INDIGENT BLIND, LIVERPOOL.

With a Note by A. A. MUSSEN, *B.A., M.D., B.Ch. Dub., D.P.H. Cantab., Assistant Medical Officer of Health and Inspector of Midwives to the City of Liverpool.*

THE unsatisfactory nature of the treatment of infants suffering from ophthalmia neonatorum must have impressed itself upon everyone who has had experience of such cases in the out-patient departments of our hospitals.

As a rule, the child is not seen until the disease is firmly established, with lids swollen and conjunctiva infiltrated: it is brought day after day, week after week, even month after month, until recovery occurs, or with threatened sloughing of the cornea it is admitted into hospital, often too late to prevent permanent damage or loss. Nevertheless, I had not realised for what length of time some cases have to attend, for babies are very like each other, except, of course, in the eyes of their mothers, until a strange case was brought to hospital, in which the upper lids were everted completely by the violence of the inflammation. This eversion probably saved the eyes, as it gave free vent to the pus; but the sight was an ugly one and identified this particular baby in my mind. At first I was very interested in the case and showed it to the students who attend the practice of the hospital, but as week after week passed I gradually began to be rather ashamed of it and to wonder when it would be finished. In the end the child recovered but took two months in the process and the mother had to bring it daily for all that time. This led me to have a record kept of the length of attendances of such cases, and to my surprise I found that this was not altogether an exceptional time in severe cases. Yet all this long treatment and danger could be saved if only the disease could be attacked vigorously in its early stages. The following cases supply proof of this assertion.

Some years ago one of the honorary surgeons was summoned late at night to St. Paul's Hospital to see a patient who had just been admitted with severe purulent ophthalmia. He remembered rubbing his eyes on the way home, being sleepy. About 5 A.M. he woke up and found that his eyes were injected and discharging a thin muco-purulent secretion; fortunately, he had some zinc chloride at hand and made up a solution of 0·5 per cent. which he kept dropping into his eyes until the smarting became too severe. He fell asleep again and on awaking found that there was still a discharge, so he resumed the use of the drops. Having to go to the hospital in the afternoon he went out but on the doorstep the pain caused by the bright sun was so severe that he absolutely spun round. However, with the aid of dark glasses he did his work and by the next morning his eyes were well. The patient, a young man, lost an eye.

The other two cases occurred in nurses at St. Paul's Hospital. One was the nurse in charge of the ophthalmia cases. The attack began in the afternoon with congestion; by the evening there was a purulent discharge and the lids were beginning to swell. She was sent to bed and the eyes were washed out with zinc chloride lotion. On the following morning there was still a discharge and argyrol 25 per cent. was used which, in her words, "stopped it at once," and she was back on duty on the following day.

The other case was that of a nurse on night duty who felt her eyes sticky in the evening: by the morning the lids were swollen and there was a purulent discharge. She was treated on similar lines to the other nurse and was back on duty in [illegible] days. These nurses have learnt their lesson and now obey orders and wear rubber gloves when dressing such cases.

These cases satisfied me that the disease is very amenable to treatment if attacked vigorously at its onset. But this is the very treatment which the average case does not receive, owing to the impossibility of carrying out, in the homes of the poor, frequent and thorough irrigation, both by day and by night. An example of this difficulty is the following case, where a medical man and nurse did all that was possible but with unsuccessful result.

The child's eyes began to discharge on the second day. A medical man was called in on the fourth day and arranged that a district nurse should come two or three times daily; he himself came once a day. Nevertheless, when the baby was brought to St. Paul's Hospital six weeks later both corneæ were perforated.

The indication, then, is the admission of cases occurring among the poor as soon as possible after the beginning of the disease into an ophthalmic hospital where vigorous treatment can be carried out both by day and by night. Having arrived at this obvious solution of the problem I was met by the equally obvious difficulties of, first, the danger of infection from the introduction of such cases into hospital, and, secondly, the necessity of the admission of the mother to feed the infant. The first difficulty was solved by the turning of a small ward into a nursery by the addition of cots and the appointment of a special nurse who is not allowed to touch clean cases. The second difficulty was much more serious and threatened to wreck the scheme. In addition to the prejudice to be overcome the risk of moving a lying-in woman in the first week had to be faced. I realised that an ambulance was necessary and could only be provided by the city authorities, so in the absence of Dr. E. W. Hope, medical officer of health of the city of Liverpool, I applied to the assistant medical officer of health (Dr. Mussen). At once he welcomed the idea and promised that an ambulance should be sent whenever required. Moreover, he told me that under the Midwives Act the health committee is responsible for the control of the midwives and under the Notification of Births Act the medical officer of health receives notification of all births within 36 hours.

Here, then, was the machinery ready to hand. Births are notified to the health department and a lady inspector visits those of the poorest class which are attended only by midwives or handy women. If she finds a baby with discharging eyes she tells the nurse to obtain medical assistance, or if too poor to take it directly to hospital. There it is seen by one of the surgeons, and if necessary detained while the health authorities are asked to send an ambulance to bring the mother. Mother and child then are put in the special ward and attended by the special nurse. Equally this arrangement applies to cases sent by general practitioners who doubtless will be glad to be relieved from the responsibility of these tedious and unremunerative cases. Of course, it is within the right of the mother to refuse to come in, in which event the baby is sent back with instructions that it must be brought at least twice daily, but I anticipate that such refusals will diminish as the ward becomes better known.

I hope also that the ward will prove of educational value, both to students and to midwives, and that it will be possible to arrange that in the curriculum of midwives in Liverpool a demonstration may be included of these cases in the height of the disease, together with examples of the results of its neglect in the persons of inmates from the Blind School. This ward is the realisation of a scheme which I proposed in March, 1907,[1] and which I elaborated in a paper read at a meeting of the North of England Union of Institutions, Societies, and Agencies for the Blind, held in Liverpool in December last. At present it is only in its beginning, having been started on Jan. 1st of this year, but I hope by this preliminary note to arouse interest in, and to evoke criticism of, an experiment in hospital and municipal work which I believe to be quite new, at any rate in Great Britain.

Note by DR. MUSSEN.—Much has been done in recent years to prevent the lamentable results of ophthalmia neonatorum, but there is still a very large number of blind children who owe their blindness to this disease. It is with this object that Mr. Nimmo Walker has suggested the scheme which he sets out in the preceding paper, and which appears to be the only scientific and radical system of dealing with such cases occurring among the poor.

There are two chief obstacles in dealing with these cases: first, the difficulty of obtaining early information as to the disease; and secondly, the difficulty of continuous treatment. The former can be, and is now, reduced by the Midwives Act, 1902, which brings the supervision of the work of the midwives under the control of the local sanitary authority, and by impressing on midwives the serious nature of even the slightest appearance of inflammation in the eyes and the need for prompt medical attention. In order to accentuate these lessons particulars have been supplied by Mr. Walker of any cases of ophthalmia neonatorum which from time to time come under his notice, and the midwife who attended the confinement is interviewed and dealt with as the circumstances of the case require. The Notification of Births Act also assists in bringing cases of the disease to light, but it is not as effectual as the Midwives Act.

As regards continuous treatment Mr. Walker rightly recognised the immense importance of cases which are too poor to be treated satisfactorily at their homes, being admitted into hospitals together with the mother, and when he was able to arrange for a ward to be set apart for the reception of these cases in St. Paul's Eye and Ear Hospital, the health department willingly afforded the assistance of an ambulance for the purpose of conveying the mother to the hospital in order that the infant might not suffer in being separated from the mother. The results of this experiment have been so encouraging as to make us hope that it may be the means of bringing this affection, which is followed at present by so much misery, into greater prominence, and of developing a system for its prevention and treatment which will further reduce the number of preventable cases of blindness in our hospitals and asylums.

Liverpool.

---

[1] Brit. Med. Jour., April 5th, 1907.

THE RIBERI PRIZE.—The Riberi prize, which is worth 20,000 francs and which is awarded by the University of Turin once every five years, has been gained by Professor Bartolomeo Gosto, one of the directors of the Public Health Laboratory of Rome, for his researches on the "Bio-reactions of Arsenic, Tellurium, and Radium."

THE TREATMENT OF TRACHOMATOUS DACRYOCYSTITIS.

BY T. HARRISON BUTLER, M.D. OXON., M.R.C.S. ENG.,
HONORARY OPHTHALMIC SURGEON TO THE COVENTRY AND WARWICKSHIRE HOSPITAL; LATE ASSISTANT SURGEON TO THE BRITISH OPHTHALMIC HOSPITAL, JERUSALEM.

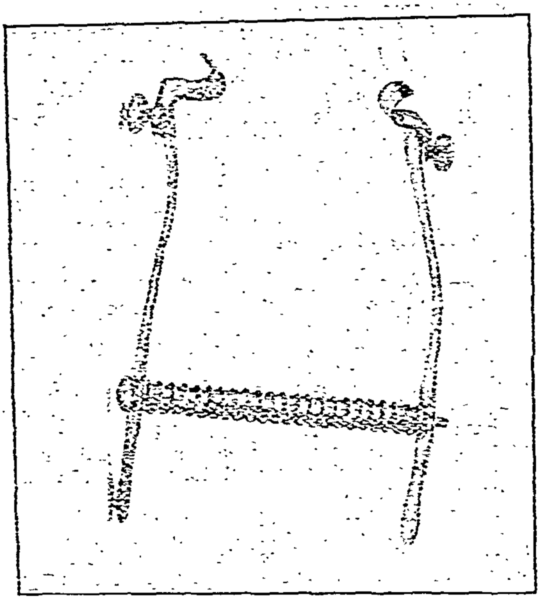
WHEN I first began to treat cases of lacrymal obstruction in Palestine I was surprised to find that they reacted to treatment very differently from similar cases in Europe. The average Arab's or Oriental Jew's eye (I do not here include the imported Polish Jew) will tolerate very much more intra-ocular manipulation than will the Western's eye; for example, one can needle without fear of any subsequent reaction and post-operative iritis is never seen in Jerusalem, if even reasonable cleanliness be observed. With regard to the lacrymal apparatus conditions are reversed: treatment which may in England be adopted with impunity in the East can lead to disaster.

It has for a long time been my custom to treat lacrymal obstruction by daily lavage with Anel's syringe. I use solution of normal saline or boric acid, and if any mucoid discharge be present I leave a few drops of a 5 per cent. solution of protargol in the sac. I have carried out this method constantly in England and I have never seen a single case in which it caused irritation. In Jerusalem simple syringing has in my hands caused œdema of the lids and now and then a regular "black eye." On several occasions the syringeful of lotion, instead of entering the nose or returning by the canaliculi, has distended the loose tissues of the lower lid. In two cases of suppurative dacryocystitis, one of them under the care of a colleague, an eye was lost through a retrobulbar abscess followed by optic atrophy. The injection of protargol in any solution stronger than 5 per cent., or of a ½ per cent. solution of silver nitrate invariably caused œdema and great pain.

All these patients suffered from trachoma, often in a severe form, and I have come to the conclusion that the sacs and canaliculi were also trachomatous and were in consequence very friable. The slightest pressure appeared to cause a rupture of the sac walls and the fluid then passed into the surrounding tissues. These trachomatous sacs are often of enormous size; I remember two which when dissected out were as large as pigeons' eggs; the walls are very thick and yet so friable that it is almost impossible to remove them intact. Basso[1] has demonstrated the existence of a trachomatous dacryocystitis, and he points out that such a condition may be the sole manifestation of trachoma, and, in fact, was so in 14 cases out of the 20 which he examined.

Treatment must be carried out with extreme care, and no stronger solution of protargol or argyrol than 5 per cent. can be safely employed—in fact, it is better to use none at all until the sac has become accustomed to simple lavage with boric acid or normal saline solution. If pus be present it is very much wiser to dissect out the sac at once than to run the risk of causing a retrobulbar abscess. All the cases in which this was done did well, but owing to the prevalence of trachoma and chronic irritation of the lids in the East epiphora is more frequently complained of after extirpation than with us. The operation may be more extensive than usual, for the sac may extend to the middle of the lower eyelid. Hæmorrhage is apt to be very troublesome, but it can be to a certain extent avoided if it be borne in mind that it usually comes from the upper and nasal aspects of the sac. If the dissection be commenced from below and from the outside the sac can often be defined and freed from its attachments before the nasal side is attacked. If possible the angular vein should be located and the skin incision be made external to it; it should not be carried too high up or the branch which comes from the upper lid will be cut. Later in the operation when the sac has been defined the incision can, if necessary, be extended upwards. I rarely use a retractor; a suture through each wound lip held by a nurse is more convenient. Occasionally I use Axenfeld's retractor, which I have modified in the manner well shown in the accompanying illustration. The three sharp prongs of the original, impelled by a powerful spring, seemed to me so very dangerous that I got Messrs. Down Bros. to replace them by a simple curved flat plate. The original fork once wounded my finger and the idea was ever present that the retractor might slip and all three prongs bathed in pus be driven into the cornea. The modified instrument has proved as efficient as the original and is perfectly safe.

I have rarely seen a case cured by the use of probes and styles. The highly fragile and irritable mucous membrane, which is so easily ruptured by simple hydrostatic pressure, is torn and lacerated by a probe, however dexterously passed, and the resulting organic strictures are incurable. In my opinion if a case of dacryocystitis cannot be rapidly cured by simple lavage and protargol the sac should be extirpated.



The following cases illustrate some of the difficulties which have been mentioned:—

CASE 1.—A Jew, aged 55 years, came to the British Ophthalmic Hospital on July 8th, 1903, suffering from dacryocystitis. He was told to attend on the next day for treatment but was not seen again until the 13th. The canaliculus was dilated with Lang's dilator and the sac was irrigated with boric lotion. The sac was full of pus, but the duct was patent, fluid passing freely into the nose. This treatment was repeated on the 15th, 17th, 20th, and 23rd. Each time there was less pus, and there was no sign of any local inflammation after the treatment. The patient did not attend again until the 27th when he appeared with the following condition. The whole eye was pushed forwards, there was great pain, and much brawny œdema of the lids. The lids were hot and the patient had a raised temperature. There was no iritis; the pupil was normal in size but did not react. There was no perception of light. The man was admitted and an incision was made under the brow. Some thick pus was found on the outer side of the orbit and was evacuated by Hilton's method. On the 30th the inflammation was much less and the eye had resumed its normal position. V. = hand reflex, good perception of light; fundus not seen on account of opaque media. On Oct. 30th all was quiet; no perception of light; vitreous full of large floating opacities. The disc was dead white and the arteries were small.

This patient had severe trachoma. Most probably the walls of the sac were ruptured by the syringe and septic matter was forced into the tissues. The pus was found at the outer aspect of the orbit.

CASE 2.—A Jewess, aged 56 years, came to the British Ophthalmic Hospital suffering from trachoma, trichiasis, nebulous cornea, and adherent leucoma. There was a dacryocystitis of ten years' standing. The canaliculus had been slit up and probes had been passed. On June 29th the sac was syringed out with boric acid. On July 8th the sac was syringed out and a few drops of a ½ per cent. solution of silver nitrate were injected and again washed out. On the 9th there was much swelling of the lids with chemosis and great pain. On the 13th a No. 4 Bowman's probe was passed and bare bone was felt. On the 15th the sac was again syringed out and some blood-clot washed out; there was a free passage to the nose. On the 20th the sac was swollen and hard; it extended to the middle line of the lower lid and was probably full of blood. On the 23rd the sac was dissected out. It was as large as a pigeon's egg and its walls were from 1·5 millimetres to 2 millimetres thick. The operation cured the case.

---

[1] Annali di Ottalmologia, vol. xxxv., 1906, fasc. 7-8.

CASE 3.—A female Arab, aged 30 years. This case was almost exactly similar to the last cited. The sac was enormous and contained two drachms of pus; it was syringed out and a little ½ per cent. silver nitrate solution was left *in situ*. This caused great œdema and pain. The sac was syringed out daily for 14 days with no result. A No. 4 probe found a tight stricture and bare bone. The canaliculus was now slit up by a colleague and the neck of the sac was divided with Stilling's knife, a large conical probe was passed into the nose, a counter puncture was made in the skin, and a drain inserted. This treatment had no effect. Ultimately the sac was extirpated and the patient was cured.

Both these patients had old cicatricial trachoma; the sacs were of large size with thick walls. Silver salts were not tolerated.

CASE 4.—A Jew, aged 26 years. On Nov. 10th, 1904, there was a discharge of pus from the left lacrymal sac. The condition was said to have been present for some time but the patient could not say how long. On the 11th the sac was syringed out with boric acid and a few drops of a 10 per cent. solution of protargol were left in the sac. On the 12th the left side of the nose and both lids were œdematous and there was much pain. This œdema cleared up in two days and treatment was continued with 5 per cent. protargol solution which was well tolerated. A month's treatment was without result.

In this case 10 per cent. protargol caused irritation. Parsons[2] recommends that from 10 to 15 per cent. be used, and I have personally often used 15 per cent. in England. In Palestine in trachomatous cases even 10 per cent. is never tolerated.

Coventry.

ON THE PATHOLOGY AND TREATMENT OF INGUINAL HERNIA IN CHILDREN.[1]

BY C. H. FAGGE, M.S. LOND., F.R.C.S. ENG.,

ASSISTANT SURGEON TO GUY'S HOSPITAL; CONSULTING SURGEON TO THE EVELINA HOSPITAL FOR SICK CHILDREN, SOUTHWARK.

OUR ideas on the pathology and treatment of this exceedingly common ailment have been so considerably altered during the last ten years that I think no excuse is necessary in choosing this as the subject for our consideration to-day. I shall found my remarks on 78 patients who were all suffering from inguinal hernia and who were operated upon by me in this hospital; I have purposely excluded my other cases as these, treated in similar circumstances and by the same method, well illustrate the points which in my opinion demand our attention in dealing with hernia in children. In briefly discussing the pathology of this condition I shall ask you to accept the view which was first definitely laid down by Hamilton Russell[2] of Melbourne which states that hernia is primarily a developmental defect owing to either partial or complete persistence of the embryonic processus vaginalis. Russell has expanded his theory so as to include herniæ in all situations and whenever they may appear, and although others hold an opinion contrary to this as to the causation of some herniæ occurring in adults most of those who have given the subject much attention agree with Russell's view in the causation of the condition which we are discussing to-day.

You will remember that in fœtal life a process of parietal peritoneum is pushed or drawn down in front of the descending testicle, and that from this the tunica vaginalis is formed, the remainder of the peritoneal tube in normal circumstances being obliterated. It is a well-accepted view that persistence of the whole process gives rise to what has for a long time been called a "congenital" hernia; it is strange that while this is allowed the presence of a peritoneal process extending from the internal ring along the inguinal canal and yet unconnected with the tunica vaginalis should be regarded as an entirely new formation driven down from above by abdominal pressure. It is surely more logical to admit that while in some cases the processus vaginalis may entirely persist, in others it may do so partially, giving rise to a sac which should bowel or omentum come down into it will produce in a child what was regarded as an acquired inguinal hernia; this will then be more correctly described under the term of partial funicular or congenital hernia. To my mind this is a far easier explanation than to suppose that increased abdominal pressure from flatulence or coughing is associated with a local weakness of the abdominal wall in the inguinal region, which have previously been regarded as factors of primary importance in this connexion. No doubt increased abdominal pressure from flatulence due to improper feeding or from straining due to phimosis may be contributory causes, for it is of course clear that the mere presence of a peritoneal sac does not constitute a hernia unless there is some abdominal viscus which can be made to descend into it. But I want to insist that the primary and chief factor is the patent funicular process, and that it is often present was shown by Murray at the British Medical Association meeting at Exeter in 1907, who reported that in 200 consecutive necropsies 68 potential hernial sacs were found, of which 13 were inguinal; this confirms Sach's investigation upon the bodies of infants at four months when in 59 per cent. of a large number he found this process incompletely closed.

I wish as far as possible to avoid the error of drawing strict statistical deductions from a small number of cases, but in pointing out that in eight only of my 78 cases was the peritoneal process complete I am in agreement with the general opinion that the "total funicular herniæ" form only about 10 per cent. of all cases; Murray, 18 per cent.; Styles, 5 per cent. in 360 cases. In these eight patients the testis was either undescended or could be returned into the canal, and similarly of the seven girls upon whom operation was undertaken the ovary was found in the sac three times.

With regard to the diagnosis, there is only one inguino-scrotal swelling which is likely in a child to give rise to any difficulty and this is a patent processus vaginalis containing fluid, or in other words a "congenital" hydrocele. These swellings are in my experience usually irreducible, though the fluid will spontaneously return into the abdomen when the child has been lying down for a short time. When the fluid returns into the vaginal process it does so slowly and this is in itself quite sufficient to differentiate it from a hernia. In this relation I cannot agree with my former colleague Mr. H. S. Clogg, who in his paper in the *Practitioner* of September, 1907, states that a hernia in a baby may be translucent owing to the thinness of the bowel wall. I was taught that this was so, yet though throughout my seven years as a surgeon here I have systematically investigated this point I have never seen a translucent hernia though I have been called upon to operate upon two or more translucent swellings admitted as herniæ which proved to be hydroceles. I should much like to have the opinion of those present upon this point.

With regard to treatment, I have never convinced myself that circumcision in my hands has had the slightest effect in aiding the cure or even in preventing the enlargement of a hernia, nor should I expect this to be so, for I have never seen in a child the subject of hernia a degree of phimosis sufficient to balloon the prepuce which must surely have resulted if there were so much obstruction to micturition as in any way to influence the descent of a hernia.

With regard to trusses, I think we may look upon the woollen skein as obsolete, and though of course such an appliance can do no harm its use is to be condemned, as when such advice is given to the parents a false sense of security is produced and so further visits to the medical practitioner are postponed with the result that any attempt at efficient treatment is delayed. It is unnecessary to point out that truss treatment must begin as soon as the rupture appears. In a child a well-fitting spring truss covered with rubber must be applied daily before the child is taken from his cot, while the hernial contents are still within the abdomen, and in many cases where the hernia tends to come done at night a light truss must be worn at night also. The difficulty of efficiently carrying this out and of preventing the skin under the truss becoming tender and excoriated is enormous, and while I am very doubtful whether it is never systematically done by the poor I know that even among private patients the details of this treatment are often neglected. A truss must be worn day and night for several years before we can hope that the hernia will not return if the truss is omitted, and during this time great care must be taken that a new truss is obtained so soon as the child outgrows the old one; it is a matter of common experience in all hospital out-patient departments that the parents soon tire of the trouble and expense and allow the hernia to go its own way.

---

[2] Brit. Med. Jour., February, 1907.

[1] A paper read before the Lambeth branch of the British Medical Association at the Evelina Hospital on March 26th, 1908.

[2] THE LANCET, Nov. 18th, 1899, p. 1353, and May 31st, 1902, p. 1519.

McAdam Eccles,[3] who strongly upholds treatment with trusses, is of opinion that this must be carried out for at least three years and holds that until this has failed the operation of radical cure should not be undertaken. One is often asked by private patients what promise there is of cure after careful and persistent truss treatment. I think it is fairly stating the case to say that a truss never cures a rupture but that by preventing its descent, dilatation of the neck of the sac and the secondary dragging downwards and displacement of the posterior wall of the inguinal canal, which should rightly be regarded as complications of the hernia, are avoided; again, the probability of strangulation is much diminished. But that trusses will do more than this I cannot believe. Of all the patients whom as an out-patient surgeon I treated here I can only remember one in whom this treatment had been so consistently carried out that after an interval of two years or more the hernia no longer came down when the patient stood up without the truss. In this connexion it is well to remember Coley's statistics which showed that of 15,000 radical cures in adults 5000, or 33 per cent., had been treated with trusses in childhood. I think it is now the duty of every medical man to impress upon parents that trusses hold out no prospect of permanent cure as the time has certainly arrived when cure can be more easily and almost certainly obtained by operative means which in themselves are practically devoid of risk.

I should regard the following as absolute indications for operation: (1) herniæ which cannot be kept up by trusses or which are painful when a truss is worn; (2) large scrotal herniæ which have stretched the inguinal canal considerably and therefore render trusses necessary throughout life; (3) the association of an undescended testis with an inguinal hernia; and (4) a hernia which has been irreducible on a previous occasion. This does not, of course, include strangulated herniæ, which must be dealt with at once, but refers to those cases in which the only symptom is irreducibility of the hernia yielding within three or four hours to elevation of the buttocks or suspension from the ankles. In my opinion taxis should never be attempted.

With regard to the broader question of operation in other cases, I am entirely in agreement with the opinion given by Mr. F. S. Eve at the meeting of the British Medical Association in 1899, when he stated that he regarded "agreement on the part of the mother to operation after she has had the alternative of prolonged wearing of trusses explained to her" as a general guide for its performance. Though some period after the first dentition is probably the ideal date at which to undertake a radical cure, there is no disadvantage in doing it much earlier and the presence of a large hernia or one which has been irreducible will sometimes demand operation in the first few months of life. Of my own cases the youngest was a month old and 15 were operated on in the first six months, yet none of these met with any immediate or remote harm, and so far as I have been able to discover there have been no recurrences. When strangulation is present the operation is undertaken under the least favourable conditions, yet in the four cases of my series in which this was present all the babies were under a year (it is generally believed that strangulation is most common in very young babies) and all did remarkably well. The experience of many surgeons shows that urgent operations are well borne in small infants, so that the question of age alone cannot be urged as an argument against a radical cure: in my opinion this is a prophylactic operation undertaken in childhood in order to avoid a more elaborate operation in later years. Further, I think that by operating in childhood we can insure a more certain result, as at this date those secondary changes in the neck of the sac and in the posterior wall of the inguinal canal which I alluded to above have not taken place. In private patients it is unnecessary to wean the infant, but when, as in hospital, this is unavoidable it is well to allow two or three weeks to elapse before operation, so that the child may become used to the new diet, as intestinal derangement may seriously jeopardise the life of an infant after this as after any other surgical procedure.

In the whole of my series the same operation has been carried out—viz., an oblique incision along the inner two-thirds of the inguinal canal exposing the aponeurosis of the external oblique which is well defined towards the pubes where its processes form the pillars of the external ring; the aponeurosis is then slit up from the external ring for about an inch—i.e., up to a point over the internal ring. An oblique incision in the same line as that in the skin is now carried through the cremasteric fascia and muscle and through the transversalis fascia, exposing the sac. It is most important to do this cleanly without unnecessary tearing of the coverings of the cord, for traumatism is undoubtedly the most frequent forerunner of sepsis, and if these structures are torn into shreds the resulting bleeding makes the isolation of the sac a matter of some difficulty. When the sac is exposed it is opened and its contents are reduced. This opening of the sac should be made not lower than the middle of the canal, and the edges being taken up with Spencer Wells forceps the sac is separated from all the other structures, which are carefully displaced in one layer. Here, again, it is important not to separate the coverings layer by layer, as doing so can only interfere with their blood-supply and favour suppuration. The sac is now divided and ligatured at the level of the internal ring with catgut applied in the form of a Staffordshire knot, the sac being meanwhile well pulled down and held taut by an assistant.

When the neck of the sac is being defined and ligatured it is well to remember that it may be encroached upon by the bladder which is here uncovered by peritoneum; similarly the non-peritoneal surfaces of the cæcum on the right or of the iliac colon on the left may slide down into the neck of the sac, forming a hernia *en glissade*. The possibility of the involvement of these structures must be borne in mind and the operator must convince himself both by sight and by touch that the neck of the sac is quite free before the ligature is applied. The external oblique aponeurosis is now sewn up beginning below at the external ring which if enlarged is narrowed so as just to allow room for the passage of the cord. In some of my earlier operations on children over six years of age one or more sutures were passed through the conjoint tendon so as to bring it down to Poupart's ligament after the method of Bassini, but I am convinced that this is unnecessary and have given it up, for in children the conjoint tendon is so strong and grips the internal ring like a sphincter in a manner which the surgeon cannot hope to improve upon. The wound having been sutured a sealed dressing is applied which is not touched until the eighth day, when the superficial suture is removed. The nursing of these patients is important; at this hospital they were placed on a mattress so divided that its middle third was replaced by a bedpan covered with a rubber air cushion which in small babies prevents soiling of the back and the possibility of excoriation of the skin; the penis was secured into the neck of a test-tube leading to a bottle so that the urine is carried well away from the region of the wound.

With regard to my results, none of the children were seriously affected by the operation but two contracted scarlet fever and were sent away; a third, aged two years, left the hospital with measles and is reported to have died at home; two cases suppurated which necessitated their retention in hospital for at least a fortnight more than was usual but in neither did this have any influence upon the ultimate result. The average stay in hospital was from 10 to 14 days and so far as I can judge there have been no recurrences, though I have seen and examined a large majority in the out-patient department at periods varying from six months to two years after operation. If it is true, as many hold, that recurrence is most likely within one year of operation then most of my cases have escaped during the period of greatest danger, but it is certainly too soon to label them as cures.

Time does not permit of prolonged consideration of the treatment of an undescended or misplaced testis complicating hernia which occurred in eight of my cases, but I must say that in my experience this condition is absolutely unfitted for a truss which usually cannot be applied because of the presence of the testis in the canal, or if a truss is worn above the testis pain from stretching of the cord is often so severe that it must be omitted. These considerations and the fact that an undescended testis is so often in the life of an active boy exposed to nipping and other painful injuries have led me to regard this as in itself a definite indication free passage to the nose. On the 20th the sac was swollen and hard; it extended to the middle line of the lower lid and was probably full of blood. On the 23rd the sac was dissected out. It was as large as a pigeon's egg and its walls were from 1·5 millimetres to 2 millimetres thick. The operation cured the case.

---

[3] Hernia, 1908.

CASE 3.—A female Arab, aged 30 years. This case was almost exactly similar to the last cited. The sac was enormous and contained two drachms of pus; it was syringed out and a little ½ per cent. silver nitrate solution was left *in situ*. This caused great œdema and pain. The sac was syringed out daily for 14 days with no result. A No. 4 probe found a tight stricture and bare bone. The canaliculus was now slit up by a colleague and the neck of the sac was divided with Stilling's knife, a large conical probe was passed into the nose, a counter puncture was made in the skin, and a drain inserted. This treatment had no effect. Ultimately the sac was extirpated and the patient was cured.

Both these patients had old cicatricial trachoma; the sacs were of large size with thick walls. Silver salts were not tolerated.

CASE 4.—A Jew, aged 26 years. On Nov. 10th, 1904, there was a discharge of pus from the left lacrymal sac. The condition was said to have been present for some time but the patient could not say how long. On the 11th the sac was syringed out with boric acid and a few drops of a 10 per cent. solution of protargol were left in the sac. On the 12th the left side of the nose and both lids were œdematous and there was much pain. This œdema cleared up in two days and treatment was continued with 5 per cent. protargol solution which was well tolerated. A month's treatment was without result.

In this case 10 per cent. protargol caused irritation. Parsons[2] recommends that from 10 to 15 per cent. be used, and I have personally often used 15 per cent. in England. In Palestine in trachomatous cases even 10 per cent. is never tolerated.

Coventry.

ON THE PATHOLOGY AND TREATMENT OF INGUINAL HERNIA IN CHILDREN.[1]

BY C. H. FAGGE, M.S. LOND., F.R.C.S. ENG.,

ASSISTANT SURGEON TO GUY'S HOSPITAL; CONSULTING SURGEON TO THE EVELINA HOSPITAL FOR SICK CHILDREN, SOUTHWARK.

OUR ideas on the pathology and treatment of this exceedingly common ailment have been so considerably altered during the last ten years that I think no excuse is necessary in choosing this as the subject for our consideration to-day. I shall found my remarks on 78 patients who were all suffering from inguinal hernia and who were operated upon by me in this hospital; I have purposely excluded my other cases as these, treated in similar circumstances and by the same method, well illustrate the points which in my opinion demand our attention in dealing with hernia in children. In briefly discussing the pathology of this condition I shall ask you to accept the view which was first definitely laid down by Hamilton Russell[2] of Melbourne which states that hernia is primarily a developmental defect owing to either partial or complete persistence of the embryonic processus vaginalis. Russell has expanded his theory so as to include herniæ in all situations and whenever they may appear, and although others hold an opinion contrary to this as to the causation of some herniæ occurring in adults most of those who have given the subject much attention agree with Russell's view in the causation of the condition which we are discussing to-day.

You will remember that in fœtal life a process of parietal peritoneum is pushed or drawn down in front of the descending testicle, and that from this the tunica vaginalis is formed, the remainder of the peritoneal tube in normal circumstances being obliterated. It is a well-accepted view that persistence of the whole process gives rise to what has for a long time been called a "congenital" hernia; it is strange that while this is allowed the presence of a peritoneal process extending from the internal ring along the inguinal canal and yet unconnected with the tunica vaginalis should be regarded as an entirely new formation driven down from above by abdominal pressure. It is surely more logical to admit that while in some cases the processus vaginalis may entirely persist, in others it may do so partially, giving rise to a sac which should bowel or omentum come down into it will produce in a child what was regarded as an acquired inguinal hernia; this will then be more correctly described under the term of partial funicular or congenital hernia. To my mind this is a far easier explanation than to suppose that increased abdominal pressure from flatulence or coughing is associated with a local weakness of the abdominal wall in the inguinal region, which have previously been regarded as factors of primary importance in this connexion. No doubt increased abdominal pressure from flatulence due to improper feeding or from straining due to phimosis may be contributory causes, for it is of course clear that the mere presence of a peritoneal sac does not constitute a hernia unless there is some abdominal viscus which can be made to descend into it. But I want to insist that the primary and chief factor is the patent funicular process, and that it is often present was shown by Murray at the British Medical Association meeting at Exeter in 1907, who reported that in 200 consecutive necropsies 68 potential hernial sacs were found, of which 13 were inguinal; this confirms Sach's investigation upon the bodies of infants at four months when in 59 per cent. of a large number he found this process incompletely closed.

I wish as far as possible to avoid the error of drawing strict statistical deductions from a small number of cases, but in pointing out that in eight only of my 78 cases was the peritoneal process complete I am in agreement with the general opinion that the "total funicular herniæ" form only about 10 per cent. of all cases; Murray, 18 per cent.; Styles, 5 per cent. in 360 cases. In these eight patients the testis was either undescended or could be returned into the canal, and similarly of the seven girls upon whom operation was undertaken the ovary was found in the sac three times.

With regard to the diagnosis, there is only one inguino-scrotal swelling which is likely in a child to give rise to any difficulty and this is a patent processus vaginalis containing fluid, or in other words a "congenital" hydrocele. These swellings are in my experience usually irreducible, though the fluid will spontaneously return into the abdomen when the child has been lying down for a short time. When the fluid returns into the vaginal process it does so slowly and this is in itself quite sufficient to differentiate it from a hernia. In this relation I cannot agree with my former colleague Mr. H. S. Clogg, who in his paper in the *Practitioner* of September, 1907, states that a hernia in a baby may be translucent owing to the thinness of the bowel wall. I was taught that this was so, yet though throughout my seven years as a surgeon here I have systematically investigated this point I have never seen a translucent hernia though I have been called upon to operate upon two or more translucent swellings admitted as herniæ which proved to be hydroceles. I should much like to have the opinion of those present upon this point.

With regard to treatment, I have never convinced myself that circumcision in my hands has had the slightest effect in aiding the cure or even in preventing the enlargement of a hernia, nor should I expect this to be so, for I have never seen in a child the subject of hernia a degree of phimosis sufficient to balloon the prepuce which must surely have resulted if there were so much obstruction to micturition as in any way to influence the descent of a hernia.

With regard to trusses, I think we may look upon the woollen skein as obsolete, and though of course such an appliance can do no harm its use is to be condemned, as when such advice is given to the parents a false sense of security is produced and so further visits to the medical practitioner are postponed with the result that any attempt at efficient treatment is delayed. It is unnecessary to point out that truss treatment must begin as soon as the rupture appears. In a child a well-fitting spring truss covered with rubber must be applied daily before the child is taken from his cot, while the hernial contents are still within the abdomen, and in many cases where the hernia tends to come done at night a light truss must be worn at night also. The difficulty of efficiently carrying this out and of preventing the skin under the truss becoming tender and excoriated is enormous, and while I am very doubtful whether it is never systematically done by the poor I know that even among private patients the details of this treatment are often nerves. Fig. 1 is a reproduction of a micro-photograph of a transverse section of the optic nerve stained according to Weigert's method. The central part is pale and presents the changes of a typical sclerosed patch; the peripheral part (dark) is normal. Medullated nerve fibres are almost absent in the centre of the section (sclerosed patch), but are present at the periphery. Fig. 2 represents a drawing of a transverse section of the optic chiasma, most of which is occupied by a sclerosed patch. The section was stained according to Weigert's method and normal (black) fibres were seen only at the periphery of the section.

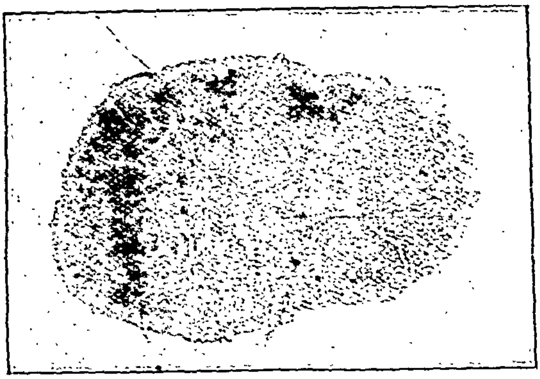
---

[2] Brit. Med. Jour., February, 1907.

[1] A paper read before the Lambeth branch of the British Medical Association at the Evelina Hospital on March 26th, 1908.

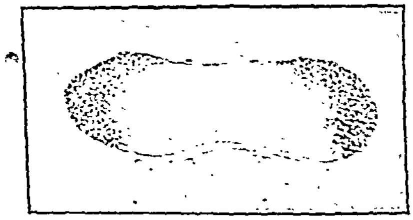
[2] THE LANCET, Nov. 18th, 1899, p. 1353, and May 31st, 1902, 1519.

FIG. 1.



Reproduction of a micro-photograph of section of optic nerve. Weigert's stain. Sclerosis (pale) in the centre.

FIG. 2.



Optic chiasma, transverse section. Weigert's stain. Pale area (sclerosis) in the centre. (× three diameters.)

In the form of disseminated sclerosis beginning with visual failure pain and anæsthesia are very rare, as in other forms of this disease. The signs of chief diagnostic value at the early stage are: (1) unilateral or bilateral visual failure, with central scotoma in some cases and often with pallor of the optic disc, especially of the temporal half; (2) the Babinski type of plantar reflex on one or both sides; (3) the irregular and shaky character of the handwriting, even when the tremor is so slight that it can hardly be detected (a most valuable sign); and (4) the age of the patient, under 40 years. The absence of any cause for the affection and of any history of syphilis, the absence of pain and anæsthesia, and the presence of the knee-jerks, tendo Achillis reflexes, and pupillary reflexes are points of diagnostic value in favour of disseminated sclerosis. It is interesting to note that in many cases after the visual defect has become marked there is a decided improvement or almost complete recovery of vision. In other cases the visual defect remains more or less stationary, and when it does progress it very rarely advances to complete blindness, in this respect differing from the optic atrophy of tabes dorsalis.

It is also interesting to note that though the prognosis of disseminated sclerosis is usually unfavourable and the termination fatal, still statistics show that in many cases the course of the disease is very chronic—the duration being from 10 to 20 years or more. Often the disease remains stationary for a long period, remissions of long duration sometimes occur, and occasionally there is apparent recovery. (Cases of apparent recovery have been recorded by Charcot, Marie, Oppenheim, Maas, Byrom Bramwell, and others.) These facts encourage the hope that in the future some treatment will be discovered which will be of distinct service in checking the progress of the disease.

Manchester.

ON THE RECTAL ADMINISTRATION OF ANTITOXIC SERA.

By J. PORTER PARKINSON, M.D. LOND., F.R.C.S. ENG.,
PHYSICIAN AT THE QUEEN'S HOSPITAL FOR CHILDREN AND AT THE LONDON TEMPERANCE HOSPITAL.

IT is now more than six years ago since I first published an account of the method of administering certain sera by the rectum and of the advantages of such a method over their subcutaneous injection. This practice had then been successfully followed by my colleagues and myself for several years. My reasons for publishing an account of the method were at that time purely clinical. They consisted in the fact that rapid improvement resulted from the injection, too rapid and too frequent, indeed, to be accounted a mere coincidence. Then the rectal injections are never followed by any of those untoward accidents which are occasionally seen after subcutaneous injections. And finally, those patients who object to a prick of the skin as being of the nature of an operation will as a rule submit to rectal medication. Since that paper was written many others have used the method and some have recorded their successful cases, so that now it rests on a more sure basis. Still some, chiefly those of a physiological and experimental turn of mind, have objected to it, stating that the serum is not absorbed by the rectum. This may or may not be the case, but it has never been contended that it was absorbed in that portion of the bowel but merely that good effects followed rectal injections.

The address in surgery at the meeting of the British Medical Association in 1905 on Ascending Currents in Mucous Canals contains some very interesting facts showing that substances placed in the rectum may pass upwards and may be found in the ascending colon, or even higher in the bowel. In a case of colotomy it was found that when a carmine suppository was placed in the rectum the gauze dressing of the wound was stained by the pigment within 24 hours; the same was found in other cases. They show that an upward current is present while the downward peristalsis is going on at its normal rate. That an excess of this may occur in pathological states has long been known from the vomiting of fæces, which is an occasional symptom of hysteria. Such facts show that if sera are not absorbed by the rectum itself it is not necessary that they are therefore inert, as they may be carried to parts of the bowel where it is not denied that absorption occurs. Lately, however, further evidence has been brought forward to show that sera and similar fluids are absorbed by the rectum and other parts of the large intestine. Calmette and Bretonin in a recently published article[1] show that tuberculin is absorbed by the mucous membrane of the rectum and that the characteristic reaction occurs as quickly and as certainly when the test is injected rectally as when the subcutaneous injection is given. Breton and Petit[2] have shown that tetanus antitoxin is absorbed, as they have immunised guinea-pigs against a poisonous dose of tetanus poison by the rectal injection of the antitoxin. Breton and Massol[3] have shown that both the poison of the cobra and its antitoxin are absorbed by the mucous membrane of the large intestine. Finally, Fornario[4] finds that guinea-pigs, which frequently die during the course of immunisation against the plague, are readily immunised by rectal injections, and the mortality from this is practically *nil*, while the protection is equal to that obtained by the hypodermic method. Taking these experiments of different observers in conjunction with the clinical results it seems that there is not much room for doubt that antitoxic sera are really absorbed when administered by the rectum and that this is an easy channel for their injection.

Up to the present I have hesitated to inject anti-diphtheritic serum otherwise than hypodermically, as I have thought that absorption might be more rapid in that way; but in one very severe case of diphtheria where the family strongly objected to the hypodermic injection the improvement after the rectal injection of the antitoxin seemed to be for operation, though I have not found that bringing the organ down and fixing it in the scrotum has had any beneficial influence upon its growth. In one case in which the defect was bilateral the testes were returned into the abdomen but in all the others the organ was brought down into the scrotum and secured by a suture passed through the skin.

---

[1] L'Echo Médical du Nord, February, 1908.
[2] Ibid.
[3] Ibid.
[4] Ibid.

Devonshire-place, W.

DISSEMINATED SCLEROSIS, COMMENCING WITH FAILURE OF VISION.

BY R. T. WILLIAMSON, M.D. LOND., F.R.C.P. LOND.,
ASSISTANT PHYSICIAN, ROYAL INFIRMARY, AND LECTURER IN MEDICINE, VICTORIA UNIVERSITY, MANCHESTER.

DURING recent years many forms of disseminated sclerosis have been described; but the form considered in this article is not well known and very often it is not diagnosed correctly at first. In this form failure of vision, in one or both eyes, is the first symptom of the disease. Other symptoms may not appear or may be only very slight for a long period, even for many years. It is well known that optic atrophy, and especially partial atrophy with pallor of the temporal half of the optic disc, occurs during the course of many cases of disseminated sclerosis. But Oppenheim, Müller, and others have drawn attention to a form of disseminated sclerosis in which visual failure, with or without signs of optic atrophy, is the first symptom, and sometimes the only symptom for a long period or for several years. Optic atrophy is sometimes one of the earliest signs of tabes, and failure of vision the first symptom for which the patient seeks advice. Likewise in disseminated sclerosis, visual failure, from changes in the optic nerve or chiasma, may be the first symptom of the disease or the first symptom to attract attention. At first these cases are usually diagnosed as primary optic atrophy, or as retrobulbar neuritis, of "unknown origin." In all such cases it is important to watch for symptoms of disseminated sclerosis.

E. Müller[1] states that in a young person who has never suffered from syphilis, lead poisoning, or alcoholism, if amblyopia should suddenly develop in one eye and then partially subside, and if some time later a similar affection should develop in the other eye, the diagnosis of disseminated sclerosis is very probable. In such a case confirmatory signs would be—pallor of the temporal half of the optic disc, with the characteristic relations of the field and defect of vision, failure of the abdominal reflexes, the Babinski extensor type of plantar reflex, and slight shaking of the hands on fine movements. The age of the patient (from 20 to 40 years), the absence of any recognisable cause, the absence of pain (in most cases), and the satisfactory general condition would be points in favour of the diagnosis of disseminated sclerosis. The following are notes on cases of this form of the disease.

CASE 1.—The patient, a married woman, aged 33 years, came under treatment on account of failure of vision and unsteadiness in walking. About three and a half years before she was first seen the vision for distant objects had commenced to fail. *At that time no other symptoms were noticed.* A year and a half later she was confined, and a few months afterwards *she noticed unsteadiness* in walking and numbness of the hands. When first seen, at the end of 1906, *the chief symptoms* were unsteadiness in walking, staggering gait, nystagmus, slight intention tremor of the hands, and failure of vision. The distant vision was $\frac{6}{18}$ (both eyes), the optic discs were pale and atrophic, and colour vision was impaired at the centre of the field. The knee-jerks were increased; there was no ankle-clonus; the plantar reflexes were of the normal form. There was only the slightest tendency to the "scanning" character of the speech. In February, 1907, the gait was more unsteady. The knee-jerks were increased, there were ankle-clonus and the extensor (Babinski) form of plantar reflex on the right side but not on the left. The abdominal and epigastric reflexes were absent, the wrist-jerk and triceps-jerk were increased on both sides, and there was a well-marked radial extensor jerk on the right side but not on the left. An ulnar extensor jerk was present on both sides. There was a little intention tremor in the hands and the writing was very irregular. There was distinct nystagmus, but the *affection of speech* was very slight. The distant vision was: right, $\frac{6}{18}$; left, $\frac{6}{24}$. The optic discs were very pale and presented the changes of primary atrophy.

CASE 2.—The patient was a married woman, aged 27 years. About two and a half years before the patient came under treatment *vision began to fail* in the right eye and in three weeks was almost lost. Then improvement occurred *gradually until the vision* became almost normal. She was seen by an ophthalmic surgeon at the time, and "an affection *of the optic nerve behind* the eye-ball" was diagnosed. About 18 *months later*—i.e., *about four months before* she came *under my observation*—she first noticed unsteadiness in walking. When examined (September and October, 1906) the *chief symptoms* and *signs* were: ataxic gait; knee-jerks present; extensor type of plantar reflex (Babinski's reflex) and *Oppenheim's reflex on the right side*, but not on *the left*; vision: left eye, $\frac{6}{6}$ partially; right eye, $\frac{6}{6}$, and the right optic *disc* rather pale. *In March, 1907*, the ataxia had disappeared. The condition of reflexes was the same. Vision, left eye, $\frac{6}{6}$ partially; *right eye*, $\frac{6}{12}$.

CASE 3.—The patient, an unmarried woman, aged 36 years, *was seen first in September, 1904.* Six weeks *previously* her vision had failed markedly in the right eye without any apparent cause. *Ophthalmoscopic examination* had failed to reveal any change. The vision had greatly improved when I *first* saw her, *but the disc* had become pale. For two weeks there had been unsteadiness in walking. Examination *revealed only* the following symptoms and signs: pupils unequal, left larger than right, both reacted to light; vision:—right *eye*, $\frac{6}{9}$ partially; left eye, $\frac{6}{6}$ partially; right optic disc pale, left normal; Babinski's extensor *type of* plantar reflex on the right side; slight nystagmus; knee-jerks present; no ankle-clonus. The patient improved and considered that she had completely recovered, but in December, 1906, she commenced to drag the right leg in walking. This symptom steadily increased and she noticed that there was a tendency to scrape the toes of the right foot and that the leg was becoming weaker. There was also slight intention tremor in the right arm. On examination in February, 1907, there was spastic paresis of the right leg. The knee-jerks were increased. There was definite ankle-clonus, and the Babinski or extensor type of plantar reflex on the right side but not on the left. The handwriting was very irregular and jerky. The wrist-jerk on the right side was much greater than on the left. There were an ulnar extensor jerk and a radial *extensor* jerk on the right side but not on the left. Vision: *right eye*, $\frac{6}{12}$; *left* eye, $\frac{6}{6}$ partially; both optic discs were pale. In March, 1907, the vision = right eye, $\frac{6}{12}$; left eye, $\frac{6}{9}$. Ankle-*clonus* and the Babinski form of plantar reflex were present on the right side. The handwriting was much more irregular and jerky.

CASE 4.—The patient was a female, aged 29 years. When a girl about the age *of* 12 *or* 13 years vision failed in the left eye. She was treated at an ophthalmic hospital and disease of the left optic nerve was diagnosed. There were no symptoms of intracranial disease and no cause for the affection of the vision could be detected. In the course of several months the vision gradually improved. At the age of 26 years she began to drag the right leg in walking; in course of time the left leg became affected and the loss of power gradually increased. When first seen (in 1902) there was marked nystagmus with *spastic* paraplegia. There was rigidity of the legs on passive movement with marked loss of power; the knee-jerks were both increased, ankle-clonus and the Babinski type of plantar reflex were present on each side. There was slight intention tremor of the right hand and the writing was jerky and irregular. The nystagmus was so marked and persistent that it was quite impossible to see the optic discs.

CASES 5 AND 6.—In two *other cases* which I had the opportunity of examining frequently, many years ago, visual failure from optic atrophy was the first symptom of the disease. *Both cases terminated* fatally and the spinal cords were given to me for pathological examination. I found the typical changes of disseminated sclerosis in both cases. In one case *failure of vision* in one eye, the first symptom, was noticed more than five years before the fatal termination. Six months after the onset of the visual failure spastic paraplegia commenced to develop. Nystagmus and the typical *symptoms* of the disease followed. Optic atrophy developed on both sides. In the spinal cord and brain I found, on microscopical examination, numerous typical patches of disseminated sclerosis. There was also a patch of *sclerosis affecting* the greater portion of the transverse section of the optic chiasma, and sclerosed patches were present *in the optic* case, which differed in so many details from the ordinary description of this rare disease, certainly did not confirm this hypothesis. The man's occupation threw no light on his condition. I might also add that there was no history of lead colic and no symptom suggestive of lead or any other chemical poison. The chilblains from which the patient had suffered in winter time before could not be the cause of the "œdema."

---

[1] Neurologisches Centralblatt, No. 13, 1905.

The *fons et origo* of the patient's illness is difficult to fathom. As a possible solution of the problem of diagnosis I should be inclined to suggest that the "œdema" was due to some disturbance of the normal vaso-motor mechanism. As regards the drug treatment of the case the mixture of iodide and mercury seemed to have some beneficial effect.

St. Mary Cray.

A CASE OF SUBCLAVICULAR DISLOCATION OF THE HUMERUS.

By WILLIAM BOURNE HALLOWES, L.R.C.P., L.M., L.R.C.S. IREL.,

SENIOR SURGEON, NEWARK HOSPITAL; CERTIFYING FACTORY SURGEON, NEWARK DISTRICT; MEDICAL OFFICER TO THE POST OFFICE.

THE rarity of the above injury is my reason for placing it on record.

The patient, a burly Scotsman, about 15 stones in weight, came to see me one evening some few months ago stating that he thought his right shoulder "was out." He told me that on the same afternoon he was riding in a tram at Lincoln, when suddenly discovering that he was being taken farther than he wanted to go he jumped up and left the car while it was going rapidly; at the time he was carrying two parcels on his left arm. He said that he was thrown violently forwards but was unable to state accurately how his right hand came in contact with the ground. However, a lacerated wound over the thenar eminence seemed to indicate that, owing to the impetus given to him by the car, his right arm as he fell was extended in an outward and backward direction when his hand struck the ground. On removing his clothes a glance sufficed to verify his diagnosis, extreme flattening of the deltoid, marked prominence of the acromion, and a deep sulcus over the glenoid cavity (into which three or four fingers could be pressed with ease) indicating the absence of the head of the humerus from its normal position. Closer investigation and palpation revealed the fact that the head of the humerus was not in the axilla, neither could it be felt by careful examination in that region. A globular swelling situated below the middle and outer third of the clavicle, the shaft of the humerus pointing in the most marked manner outwards and somewhat backwards, and complete inability to approximate the elbow to the side, proved beyond doubt that the case was one of those so rarely met with—viz., complete subclavicular dislocation of the humerus.

Placing the patient flat on his back and flexing the elbow-joint I firmly gripped the lower end of the humerus and applied extension downwards, my object being to clear the coracoid when the time came for employing rotation outwards. After a few minutes' extension, gradually applied with increasing strength, the globular swelling had considerably moved downwards from its position immediately below the clavicle; then suddenly rotating outwards, followed instantly by bringing the arm sharply across the chest, I had the satisfaction, at the second attempt, of feeling and hearing the head of the bone slip back into its normal position. Considerable swelling of the parts in the vicinity of the joint followed the reduction, and a well-marked globular ecchymosis indicated for several days the position occupied by the head of the humerus immediately below the middle and outer third of the clavicle. The limb was placed in a triangular bandage. On the following morning passive movements were commenced and cautiously increased day by day, the patient being exhorted to use great care in gradually resuming the usual movements of the joint and limb, which instructions he faithfully carried out until complete recovery resulted.

Bryant[1] gives an illustration of this injury and says: "Subclavicular dislocations in which the head of the humerus rests below the clavicle on the sternal side of the coracoid process are exceedingly rare. I have never seen a complete example." Lower down in the same paragraph he says: "The bulk of cases recorded as of the subclavicular kind are probably subcoracoid." Rose and Carless[2] say: "The subclavicular variety is very uncommon and merely an exaggeration of the subcoracoid, the head of the humerus passes further inwards and lies deeply under the pectoralis major, on the second and third ribs." Keen and White,[3] under the head of anterior dislocation, say: "These present two varieties, the subcoracoid and the intracoracoid, according to the distance to which the head of the humerus is displaced inwards. An extreme form of the latter is sometimes called the subclavicular."

Newark, Notts.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Tuberculosis of the Fallopian Tube.—Cæsarean Hysterectomy.—Excretion of Creatinin.—Intra-uterine Death of the Fœtus.

A MEETING of this section was held on April 9th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. H. MACNAUGHTON-JONES read a short communication on the subject of Primary Unilateral Tuberculosis of the Fallopian Tube. He briefly reviewed the more recent etiological and histological points bearing on tuberculosis of the female genitalia, dealing with the relative frequency with which the various organs are affected from the vulva to the ovary. The occurrence of primary tuberculosis in any of the genitalia was not common but a unilateral primary tuberculosis was very rare. His communication dealt with primary unilateral tuberculosis of the Fallopian tube, of which he had met with two instances, and he had one case of primary tuberculosis of both tubes. In all these the rest of the genitalia were healthy. The details of the three cases were given and all the removed tubes were shown, together with the microscopical sections. In the case which was the source of this communication a tuberculous pyosalpinx was removed six and a half years ago. The patient had had one twin pregnancy and three other pregnancies since. He had recently to perform on this patient a cœliotomy, 39 days after labour, for an extensive septic perimetritis (the section of the matted adnexa was shown with the epidiascope). There was no evidence of tubercle. She was now perfectly well. All the five children were strong and healthy. Mr. J. H. Targett and Dr. Cuthbert Lockyer had made the reports. He (Dr. Macnaughton-Jones) had received replies from some 35 leading gynæcologists in the United Kingdom and abroad before bringing the case forward as to the records of such a condition. Only in seven of the home clinics were there records of such a lesion and in but three of the foreign.

Dr. KEDARNATH DAS of Calcutta communicated a short paper on Three Cases of Cæsarean Hysterectomy for Atresia of the Vagina which was read by the honorary secretary. Traumatism during labour in which instruments were used was the cause of the condition in each case. Two of the cases were complicated with vesico-vaginal fistulæ which had resisted attempts to close them, although in one case a recto-vaginal fistula had been closed. In the first case the mother died, probably from the infection of the peritoneum through the vesico-vaginal fistula. In this case the child lived. In the second case the mother lived but a dead fœtus was removed from the uterus. In the third case both mother and child lived. Vesico-vaginal fistula was frequent in India. The occurrence of conception in such peculiar circumstances was worthy of note.

Dr. O. J. NEPEAN LONGRIDGE read a short communication on the Creatinin Excretion of Lying-in Women during the most active period of involution of the uterus. The paper was based on 90 estimations of creatinin and 180 estimations of the total nitrogen in the urine. The patients were delivered in Queen Charlotte's Lying-in Hospital and were kept upon a creatinin-free diet during the time they were under observation. The endogenous creatinin alone was estimated.

---

[1] Practice of Surgery, fourth edition, 1884, vol. ii., p. 302.

[2] Manual of Surgery, sixth edition, 1905, p. 627.

[3] American Text-book of Surgery, third edition, 1900, vol. i., p. 435.

as rapid and thorough as if it had been given in the ordinary way.

I will conclude by mentioning one case, not an exception, but a type of many others, in which the rectal injection of polyvalent anti-streptococcus serum gave a rapid result in a case of chronic gonorrhœal infection. A man, aged 28 years, came to the out-patient department of the hospital suffering from pains in several joints and especially of severe pain in the heel. He had been infected with gonorrhœa some months previously and still had a slight urethral discharge. I injected 25 cubic centimetres of polyvalent anti-streptococcus serum per rectum and prescribed no other treatment. He went home and when I saw him the following week all his symptoms had gone and there was no visible urethral discharge. He informed me that the pain in the heel, which was his chief trouble, went away within 24 hours after the injection. I should have mentioned that the patient had been under treatment elsewhere for three weeks before he consulted me.

The technique of the injections is extremely simple. It is not necessary to give a cleansing enema without there is much constipation. The patient lies on the left side on a couch and a No. 6 Jacques catheter is passed as far as possible into the rectum; to the catheter is attached the barrel of a glass urethral syringe into which the serum is poured; as a rule gravity is sufficient, but if the fluid does not flow readily the piston can be used in the ordinary way. After the injection the patient should be kept lying on the couch for a quarter of an hour and then can be sent home in a vehicle. Rest in bed is not necessary after the injection, but exertion should not be allowed.

Wimpole-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

◆

A CASE OF POISONING BY BROMIDE OF POTASSIUM

By A. CAMPBELL STARK, M.B., B.S. LOND.,

LATE DEMONSTRATOR ON MATERIA MEDICA AT ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.

POISONING by bromide of potassium is of sufficiently rare occurrence to make any well-marked example of it worth recording. The following case also presents some features of peculiar interest. The subject was a woman, aged 35 years. She was nearly nine months pregnant. She was of a neurotic temperament but otherwise perfectly healthy. She had suffered from facial neuralgia and was ordered one evening a six-ounce mixture containing 30 grains of bromide of potassium in the ounce. This she placed under her pillow and helped herself to at short intervals during the night. It was afterwards found that she had a private store of the drug which she also took, so that she swallowed altogether about four and a half drachms of the salt in less than 12 hours. When seen on the following day she was in a very drowsy and semi-comatose condition. She could be aroused by speaking loudly to her and answered —apparently without understanding the question—in a hesitating and tremulous manner but was unable to express herself intelligently on account of aphasia. This was extremely well marked and but for the history and the absence of other symptoms would have strongly suggested a cerebral lesion. Thus the medicine was referred to as soup, pastry, as cushion, and so on. She seemed conscious that she was using the wrong word and after several repetitions of it would relapse into silence. Left to herself she passed at once into a semi-comatose state. The respirations were deep, regular, and slightly stertorous, but not slower than normal. The pupils were normal in size and reacted well to light and to accommodation. The pulse was 76, quite regular, and of good volume and tension. The fœtal heart could be heard quite plainly. The knee-jerks were exaggerated and although the muscular movements were slow and feeble the patient was able to leave her bed without assistance and totter about the room. There was no anæsthesia of the skin or mucous membranes and she took food readily and with apparent appetite. These conditions continued without any change for two days. On the third day the aphasia had begun to disappear and by the end of the fourth day the patient was practically well. She had no recollection of what had happened during the first two days. No treatment was adopted except the administration of five-minim doses of liquor strychninæ every four hours. Three weeks afterwards the patient gave birth to a vigorous male infant, the labour being rapid and uneventful.

The case is instructive on account of the well-marked aphasia and the fact that labour and the fœtus were quite unaffected by the drug. The aphasia is difficult to account for. Unless one assumes some specific action by bromide of potassium upon the cells or blood-supply of the vocal word centre one can only suppose it to be due to the general depression of the subcortical cells comparable to the temporary aphasia produced by exhaustion and debility.

Wanstead Park, Essex.

A CASE OF "ŒDEMA" LIMITED TO THE ARMS, FACE, AND NECK. ? CAUSE.

By J. M. BENNION, M.A., M.D., B.C. CANTAB., M.R.C.S. ENG.

THE patient, a married man, aged 40 years, was a painter by trade. His family history and his health previously to the present illness were satisfactory. On Nov. 4th, 1907, he came to my surgery complaining of pains in both thighs and forearms, which apparently were in the muscles. I gave him a mixture containing 15 grains each of sodium salicylate and potassium bicarbonate three times a day. One week later he consulted me about his arms being "swollen." On inspection both forearms were noted full and rounded. The skin was neither reddened nor hot. There was marked pitting on pressure on the dorsal aspects. The œdema was located to the posterior surface and the upper half of each forearm. On the backs of either hand were a few chilblains but no open wounds. The legs, feet, and the rest of the body were free from œdema. The patient was advised to give up work temporarily. The arms were massaged and he was ordered a mixture containing five minims each of nux vomica and Fowler's solution. By Nov. 20th the œdema of the left forearm had disappeared and that of the right was less marked. On the 22nd some swelling of the lids of the left eye was noticed. The lids of both eyes were very œdematous on the 24th. A few red blotches on the cheeks were also observed. The temperature and pulse were normal and remained so throughout the illness.

On Nov. 25th I asked my partner, Mr. T. W. Bailey, to see the patient with me. He was unable to find a cause for the man's condition and suggested his taking a mixture of iodide and mercury. On the 26th the œdema of the eyelids was less but it had spread over both cheeks. The patient complained of tenderness on pressure over both sterno-mastoid muscles and down the back of the neck. The voice was a little husky. He was put on a mixture containing 15 minims of liquor hydrargyri perchloridi and three grains of potassium iodide thrice daily. On the 27th the œdema of the face was less evident. The skin over both mastoid bones and sterno-mastoid muscles was slightly red and pitted a little on pressure. Œdema of the left forearm had reappeared. On the 28th the neck was more swollen and the voice was almost gone. The uvula and faucial pillars were injected and swollen. Both forearms were œdematous.

By Dec. 1st the patient, who had been in bed during the previous week, was better. The œdema of the eyelids, face, and neck had cleared up. The voice was less hoarse. The doses of mercury and iodide were increased to 30 minims and five grains respectively. On the 4th the patient felt quite well. The voice had quite returned. There was still slight œdema of both forearms. He was allowed out of doors on the 10th and no sign of œdema of either forearm was present after the 13th. The patient resumed his work early in January and has kept quite well up to the present time (April 18th).

The appearance of œdema in a patient is usually an important physical sign giving a clue to the nature of the disease. In the case described a careful examination of the man revealed no cause for his condition. The heart was sound and the urine was free from albumin. No evidence of thrombosis of any veins of the arms or elsewhere could be found. Angio-neurotic œdema[1] was considered as a possible explanation. But the history and clinical features of the

---

[1] Cf. Osler, third edition, p. 1140.

HUNTERIAN SOCIETY.

Discussion upon Rheumatism.

A MEETING of this society was held on April 8th, Mr. F. ROWLAND HUMPHREYS, the President, being in the chair.

Dr. FREDERICK TAYLOR opened a discussion on Rheumatism. With regard to its pathology he was convinced that it was an infectious disorder, and almost certainly microbic. The profession rightly demanded rigid proof of the specificity of an organism. With regard to diseases having a relationship to rheumatism, but once thought to be distinct, the first was chorea. Chorea was obviously toxic rather than a purely nervous disease. That it belonged to the infectious group was shown by the occasional occurrence of endocarditis in cases in which there had been no previous rheumatism, by the great frequency of endocarditis in fatal cases, and by the resemblance in the manner of death between some fatal cases of chorea and other nervous diseases such as hydrophobia and tetanus. Those three diseases were alike in being almost solely infectious disorders of the central nervous system and different in the area chiefly affected. The association of tonsillitis and various erythemata with rheumatism was recognised long ago. There were many forms of infective arthritis other than acute rheumatism, and it was reasonable to suppose that such affections in association with erythema and urticaria were due to some other condition, possibly some other toxæmia, than that of acute rheumatism. Wright thought that hæmorrhagic, erythematous, and urticarial lesions were often due to deficiency of calcium salts in the blood. He (Dr. Taylor) did not adopt the idea that an erythema was necessarily a manifestation of rheumatism. Again, it was difficult to look upon tonsillitis as necessarily due to rheumatism. The tonsils were specially vulnerable to causative microbes. The researches of the skilled bacteriologist were specially needed in regard to the relationship between acute rheumatism and chronic rheumatism or osteo-arthritis. Osteo-arthritis in the middle-aged and the old was very widespread and occurred in many thousands who had never had acute rheumatism. Hyperpyrexia was a complication of rheumatism which was a profoundly interesting mystery. From 1873 to 1877 there was an epidemic of hyperpyrexial cases in the British Isles which he did not think had been repeated. A committee of the Clinical Society reported on a number of such cases but without reaching any definite conclusion. It might be said that salicylic acid would guard against a recurrence of such epidemics, but the salicylate treatment was introduced, though perhaps not fully pushed, during the years when hyperpyrexia was rife. During 18 years (1888 to 1905) the admission of cases of acute rheumatism to Guy's Hospital numbered 1887, yet there were only seven cases of hyperpyrexia, two of which proved fatal. With regard to the salicylates, he considered 20 grains every four hours to be the best dosage. The question remained how to prevent carditis; and he would be glad if any subsequent speakers could say whether that had been any less frequent during the last 40 years. His impression was that rheumatic heart disease was as prevalent now as ever. Much had been said about the control of carditis, but he dissented from most of it, and when the heart was primarily affected carditis could not be obviated. He asked what view ought to be taken of rheumatism in regard to insurance practice. What view ought to be taken with regard to a proposer who had had within a few years a sharp attack of acute rheumatism, when the heart on examination appeared quite sound? 15 or 20 years might intervene between an attack of rheumatism and the onset of cardiac disease.

Dr. F. J. POYNTON said that to him rheumatism was a specific disease. It was not strictly a fever, as there might be no fever. He and Dr. Paine had investigated 40 cases in ten years and had isolated the diplococcus of the disease from many parts of the body. They were the first to reproduce experimentally and repeatedly rheumatic pericarditis and endocarditis. The conclusions which he and Dr. Paine had arrived at were that the micrococcus could be isolated in pure culture from the cardinal lesions of rheumatism, could by injections into animals cause similar lesions, and could be again isolated from these lesions in pure culture. He exhibited a number of specimens showing the artificially induced lesions in animals.

Dr. T. J. HORDER said that his attitude was that of a sceptic rather than that of an opponent of Dr. Poynton's views. Such of the specimens of the diplococcus rheumaticus as Dr. F. W. Andrewes and he had been able to investigate had given reactions identical with those of the fæcal streptococci obtained from cases of malignant endocarditis. He believed that the causal factor of rheumatic fever was as yet undiscovered, and that such bacteria as had been obtained had been connected with secondary invasions in a body invaded by the rheumatic virus.

Dr. A. P. LUFF dealt with the irregular manifestations of rheumatism. For every case of acute rheumatism the general practitioner perhaps saw a hundred of chronic rheumatism. The latter was really an affection of the white fibrous tissue, which had led Sir William Gowers to coin the word "fibrositis." The word "rheumatic" in that connexion was unfortunate. The condition was frequently started by cold and wet and it might be started by strain, as in the case of tennis elbow, golfer's elbow, &c. In the treatment the salicylates were useless except as relievers of pain. For the pain he knew nothing better than a combination of aspirin and pyramidon. For the fibrositis he knew nothing to equal iodide of potassium and he gave it in the largest possible doses. The local fibrositis might be relieved by the application of heat or by ionic medication. In his experience there was no necessity to diet patients suffering from fibrositis; there was no reason for the belief that it was associated with gout. He urged that the profession should finally abandon the uric acid fetich, uric acid being a harmless by-product.

Dr. F. J. SMITH asked for a definition of malignant endocarditis. The difference between it and ordinary endocarditis was only one of degree and he was in the habit of teaching that every endocarditis was ulcerative. The term endocarditis should be used with the addition of an adjective to denote the kind of microbe causing it when that was known.

Dr. O. F. F. GRÜNBAUM asked Dr. Poynton in what percentage of cases his cultures were obtained during life and ten days or more before death. That was very important, as a terminal invasion occurred in so many diseases. More evidence was wanted that the organism of Poynton and Paine was different from that of Andrewes and Horder.

Dr. SEYMOUR TAYLOR said that not infrequently one or other parent of the choreic child was rheumatic and the disease was preceded by or complicated rheumatism in many cases. In severe cases of chorea there was frequently a rise of temperature. In 30 per cent. of the cases the child had endocarditis or pericarditis. Moreover, chorea yielded to treatment by salicylates as quickly as to arsenic or other so-called remedies. He had had a child in hospital without a history of rheumatic fever who suffered from chorea. Lumbar puncture was done and Poynton's micro-organism discovered. That patient was quickly cured by salicylate of sodium.

Dr. POYNTON, in reply, said that the question of a terminal infection in his cases could be disposed of. Some of the patients from whom the micrococcus was obtained lived for years afterwards.

The discussion was adjourned.

UNITED SERVICES MEDICAL SOCIETY.

Probable Diseases of a Territorial Army.

A MEETING of this society was held on April 9th at the Royal Army Medical College, Millbank, London, S.W., Inspector-General Sir HERBERT MACKAY ELLIS, K.C.B., K.H.P., being in the chair.

Captain W. SALISBURY-SHARPE, R.A.M.C. (Vol.), read a paper entitled "The Diseases likely to Occur on the Occasion of the Mobilisation of a Territorial Army." He divided such diseases as regards causation into those due to a common cause and those directly communicable from man to man, and as regards treatment into the specific infectious fevers and the group of alvine disorders, including enteric fever. He pointed out that in the first line it would not be possible to make use of buildings for hospital purposes owing to the absence in many cases of such buildings as might be suitable for the purpose. The water-supply, again, would have to be taken from shallow wells or open streams, both of which needed careful protection on account of their liability to fæcal pollution. He next passed to the question of the disposal of excreta and pointed out that the great object to be aimed at was the elimination of all causes tending to favour the breeding of flies, which were far more fruitful causes of food contamination than was air-borne dust; he

It was found that the creatinin excretion maintained practically a level line and was probably not increased by the involution of the uterus, a result which was in harmony with the recent work on creatinin excretion. By applying the conception of autolysis to the process of involution of the uterus it was thought that a clearer idea of that process might be obtained. A very brief *résumé* of the main facts concerning autolysis was given, stress being laid on the fact that it was most rapid in an acid medium and in a bloodless organ. Dr. Longridge had observed that the wall of an autolysing uterus was acid in reaction and considered that the rapidity of the first stage of involution was due to this fact and to the fact that the uterus is anæmic during the first four or five days after delivery in a normal case. This anæmia is due to two factors, the retraction of the uterus and the effect of the kinking of the uterine arteries in reducing the blood pressure in them after delivery. Dr. Longridge thought that the conception of autolysis would help to explain many obscure points of uterine pathology, such as super-involution of the uterus and the changes in fibroid tumours, and would lead to considerable clarification of their ideas in regard to the relation of the liver to the toxæmia of pregnancy.

Dr. HERBERT WILLIAMSON and Dr. EARDLEY L. HOLLAND communicated a paper on a case of Intra-uterine Death of the Fœtus occurring in five consecutive pregnancies. The case was recorded of a patient, aged 24 years, who had given birth to two stillborn children at the twenty-sixth and twenty-eighth weeks of gestation respectively. Careful examination of the patient and her husband failed to reveal any signs of syphilis and no history of infection could be obtained. During the course of the next two years she gave birth to two more children, stillborn, at the eighth month. In her fifth pregnancy the child was found to be alive in the thirtieth week, and the induction of premature labour was recommended. Three weeks later she was spontaneously delivered of a stillborn child in Queen Charlotte's Hospital. Sections of the fœtal organs stained by Levaditi's method revealed the presence of the spirochæta pallida. She became pregnant again before the menses reappeared and throughout this pregnancy was treated with small doses of mercury and iodide of potassium. When examined on Oct. 17th the uterus reached to the costal margin and the fœtal heart could be heard. It was believed that nine lunar months' gestation had been completed and it was thought advisable to run no further risk but to induce labour. Labour was induced on Nov. 2nd and she was delivered of living twins, a boy and a girl. Both children were obviously premature and the amniotic sac of the female child contained an excess of liquor amnii. The children survived only a few days and post mortem neither showed syphilitic lesions, nor could spirochætæ be discovered in sections of the organs. Dr. Williamson and Dr. Holland brought forward the case as a contribution towards the pathology of intra-uterine death and stated their opinion that Levaditi's method of demonstrating the spirochæta pallida has given a new means of diagnosis and new indications for ante-natal treatment.

MEDICAL SOCIETY OF LONDON.

Malta Fever.

A MEETING of this society was held on April 27th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Colonel D. BRUCE, R.A.M.C., read a paper on Malta Fever. He said that in 1904 as the incidence of Malta fever among the garrison of Malta had increased to a marked extent the Royal Society, at the request of the Admiralty, War Office, and Colonial Office, sent out a Commission to Malta to investigate the disease. From the results of the experiments made by the Commission it seemed most probable that the micrococcus Melitensis (Bruce), the cause of the fever, gained an entrance to the body by way of the alimentary canal, and therefore by some infected food or drink. That led to an examination of foodstuffs, and among these the milk of the goat was one of the most important. Then followed the remarkable discovery that the goats in Malta acted as the reservoir of the virus of the fever. The goat was very much in evidence in Malta and supplied practically all the milk used. It must be confessed that the Commission had little hope that an examination of these animals would yield anything. Several goats had been inoculated and fed with the micrococcus and the result watched. There was no rise of temperature, no sign of ill-health in any way, but in a week or two the blood was found to be capable of agglutinating the specific micro-organism. Even then the goat seemed such an unlikely subject for Malta fever that the observation was in danger of lapsing. Nothing more was done for several months when by accident the matter came up again and it was decided to repeat the inoculation experiments. A small herd was procured for the purpose and, as an ordinary precautionary measure, their blood was examined before inoculation. Much to the surprise of the Commission several of them were found to react naturally to the agglutination test and that led to the examination and the discovery of the micrococcus Melitensis in the blood, urine, and milk. Some thousands of goats in Malta were then examined and the epoch-marking discovery was made that 50 per cent. of the goats in Malta responded to the agglutination test and that actually 10 per cent. of them were excreting the micrococci in their milk. Monkeys fed on milk from an affected goat, even for one day, almost invariably took the disease. At that time, curiously enough, an important experiment on the drinking of goats' milk by man took place accidentally. That was the case of the s.s. *Joshua Nicholson*. In 1905 this ship shipped 65 goats at Malta for export to America. The milk was drunk in large quantities by the captain and the crew, with the result that practically everyone who drank the milk was struck down by Malta fever. 60 of the goats (five having died) on arrival in America were examined and 32 were found to give the agglutination reaction, while the micrococcus Melitensis itself was isolated from the milk of several of them. Preventive measures were first begun in Malta in June, 1906. Of course, much opposition and prejudice were met with at first, but by dint of argument and explanation most of the regiments and military and naval hospitals agreed to banish goats' milk from their dietary. The result was very striking, for in 1907 there were only seven cases of Malta fever in the soldiers of the garrison and none at all among the sailors. It was evident, then, that the rational mode of preventing Malta fever was to keep people from drinking infected goats' milk. It was almost certain that practically all cases of Malta fever were caused in that way. The cases which had arisen in laboratories by accidental inoculation showed that other methods of infection were possible, but the fact that practically Malta fever ceased in the garrison on goats' milk being banished from the dietary was sufficient proof that all other modes of infection might be ignored. The seven cases of Malta fever among the garrison which occurred in 1907 were almost all traced to the drinking of goats' milk. It would be thought that as soon as the discovery was made known to the Maltese they would at once have set about purifying their herds of this infection. But this was not so. So far as Colonel Bruce was aware, up to the present time not a single infected goat had been slaughtered or anything done to remedy the outrageous state of affairs. At the present moment the Maltese goatherd was leading about his diseased animals and selling to his unwary clients an emulsion of micrococcus Melitensis as pure milk! It was a pity that in a long chronic disease, such as Malta fever, which seemed interminable alike to medical man and patient, there was no drug which would help to cut it short. But up to the present no specific drug had been discovered. They were driven, then, to treat the symptoms as they appeared. Some work had also been done in the treatment of this fever by anti-sera, but with no success. Malta fever had also been treated of late years by the injection of dead micrococci. It was constantly stated in the medical journals that that had given good results, and Malta fever was quoted as an instance of a disease which was successfully treated by that method. Reid and Bassett-Smith of the Royal Navy had published results but he (Colonel Bruce) must confess after reading their papers that he failed to see any proof whatever of that disease being modified for the better by these injections, even when controlled by the opsonic index. —After a brief discussion of the paper by the PRESIDENT, Dr. J. V. BELL, and Dr. E. D. MACNAMARA, Colonel BRUCE replied.

The PRESIDENT then announced that the Fothergillian gold medal for the best essay on some branch of practical medicine or practical surgery proposed by the trustees of the Medical Society of London or for a literary work on some branch of practical medicine or surgery had been awarded to Sir Almroth E. Wright.

infection was fallacious, because the uterus was so intimately bound up with its connective tissue and lymphatics that the removal of the infection by removing the uterus seemed hopeless. If a patient got into a chronic condition of pyæmia he could imagine that by removing the source of the infection in the uterus they might do a certain amount of good, as the extension of infection during the operation might be successfully overcome by the resistance set up by a long period of vaccination, so to speak. But in the early stage it did not seem possible to remove the uterus with its load of infection and open up the peritoneal cavity without giving the patient such a dose of the organism as would do away with any good got by removing the prime source of the infection.—Dr. O'Farrell said that Professor Frederic E. Sondern of New York, writing in the *New York Medical Journal* of June 16th, 1906, claimed that by means of a general and differential leucocyte count he was able not only to ascertain the presence of a septic infection but also to estimate the body resistance. Relative increase in polymorphonuclears indicated the presence of sepsis and the degree of leucocytosis indicated the condition of the body resistance. Professor Sondern considered it so important that he had an assistant on duty in his laboratory day and night so as to be able to examine any patient's blood and let the surgeon know without delay whether the blood conditions were such as to make operation desirable.—Sir W. J. Smyly said it was unlikely that any one of them would meet with more than a very few cases in which operative interference was required and as it had been laid down that they could not judge the value of any particular line of treatment upon less than 100 cases it would probably take some centuries before any one institution would yield a sufficient number of cases. It was evident that the great majority of cases spoken of by Sir A. Macan were localised, not general, sepsis. In douching the uterus they were liable to do harm by opening up channels for the absorption of septic materials. One of the first things they had to do in a case of acute fever following childbirth was to try to clear the uterus with the finger, and he did not think that there was any difficulty in doing so if they gave the patient an anæsthetic. He was not inclined to give up the flushing spoon-curette, and he thought that the introduction of the brush would be more dangerous than the spoon.—The President said that he divided puerperal infection into the mild, acute, and chronic types. The mild type was eminently suited for surgical interference. The chronic type was that dealt with for the most part by Sir A. Macan, and the acute type was outside the pale of all treatment. He divided operative treatment into the mild, the intermediate, and the drastic. Under the mild he put raising the bed, douches, exploration of the uterus, draining pus pools in the uterus, replacing a retroflexed uterus, and the removal of pieces of placenta and membrane by the fingers. These could be undertaken without chloroform in the patient's own bed and were highly successful. The intermediate (Pryor's) operation could be done in the patient's own bed but required an anæsthetic; it could be conducted without fear of injuring the patient, and it was largely diagnostic as well as curative. If they could get a pelvic peritonitis well established the patient would probably recover and no procedure was better for that purpose than plugging the whole pelvic cavity with iodoform gauze. He believed that it impeded the circulation in the lymphatics. Antistreptococcus serum was worthless when the disease had developed, though valuable as a prophylactic remedy. Where pus had burst into the abdomen he gave the serum straight off.—Sir Arthur Macan, in reply, said that it might require a hundred cases to make statistics but it did not require that number to enable them to have ideas on the subject. He had himself expressed his objection to the term puerperal fever but there was no other term that embraced all the states, including sepsis. The uterus had been recognised for a long time as the source of the infection, and theoretically they must recognise a point at which the removal of the septic centre would be sufficient to stop the spread of the disease. The earlier they operated the more successful they would be, but the more doubtful it would be as to the success of the operation.

Windsor and District Medical Society.—A meeting of this society was held on March 25th, Mr. W. A. U. Thomson (Maidenhead), the President, being in the chair.—Mr. William B. Holderness (Windsor) showed Preparations from a Carcinomatous Kidney removed by Mr. E. Hurry Fenwick in February. The patient, who was a man, aged 68 years, had now resumed his work.—The President showed a man, aged 33 years, with enormous Varicosities over the abdomen and thighs.—Mr. Joseph O. Skevington (Windsor) showed a young woman with well-marked Broad Lines Traversing the Skin in the region of the right shoulder and breast. They were thought to be degenerative but the nature of their causation could not be definitely determined.—Mr. A. E. J. Barker (London) read a paper on the Pre-operative Treatment of Non-malignant Disease of the Stomach. He said that surgeons were frequently asked to operate on patients with chronic gastric troubles which were not beyond the reach of other than operative measures. He then gave an outline of a typical case of this kind in which the patient suffered from chronic dyspepsia of some years' standing, with vomiting, wasting, epigastric pain and eructations, and described his own routine pre-operative course of treatment. This treatment, he said, always rendered an operation safer if it had to be performed, and might obviate the necessity for such interference if carried out thoroughly. The patient should be kept in bed. The food should be properly sterilised. The mouth and throat should be cleansed and any foul stumps of teeth should be extracted or stopped. The food most relied on by him was boiled bread and milk with salt, or beaten-up eggs, and carefully prepared broths. These should be given at regular intervals, and it was most important that they should be given in small quantities at a time, because the pylorus contracted under the stimulus of badly digested food and the material thus retained in the stomach was liable to decompose. A case illustrative of this was related in which repeated washing out of the stomach for several days caused a wonderful improvement in the condition of a much wasted man. He soon became cheerful and put on flesh, and no operation was necessary. Mr. Barker believed that it would be very advantageous to the patient if this procedure of lavage were adopted in the earlier stages of so-called dilated stomach.

Wigan Medical Society.—A clinical meeting of this society was held on March 12th, Mr. W. Berry being in the chair.—Dr. R. Prosser White read notes of several cases treated with a considerable measure of success by Vaccines and urged that in some cases where operation was hopeless or inadvisable this form of treatment should have a fair trial. He also exhibited the following cases: (1) Tuberculosis of the Hip with Sinuses, treated with T.R.; (2) Scirrhus of the Mamma, with a Staphylococcic Infection treated with Antistaphylococcic Vaccine and much improved; (3) Tubercle of the Testis, treated with Hetol; and (4) Folliculitis Decalvans treated with Antistaphylococcic Vaccine.—Dr. C. G. Edmonston showed the following cases: For Mr. Berry: (1) A case of Strangulated Hernia, where 38 inches of bowel were resected for gangrene; (2) Wiring of Fracture of the Lower Jaw (compound); (3) Thyroidectomy, local anæsthesia, solution of cocaine 1 per cent.; and (4) a case shown at a former meeting, with Abdominal Tumour, which had since disappeared.—For Mr. W. Mitchell Roocroft: (1) A Hæmatocele of the Lesser Sac treated by Operation; (2) Paralysis of the Muscles of the Right Shoulder due to strain; (3) case of Icterus, probably malignant; and (4) Epispadias.—For Mr. C. R. Graham: (1) Thiersch Graft; and (2) case of Biliary (?) Colic for Diagnosis.—Mr. C. M. Brady showed (1) a case of Excision of Half the Lower Jaw in a young girl for Sarcoma; and (2) a Meningocele in a very young Infant.—Dr. Harry Holmes showed a case of Cataract Extraction.—Dr. Blair showed a case of Multiple Serositis. ——A meeting was held on April 14th, Mr. Roocroft being in the chair.—Mr. W. Thelwall Thomas read a paper on Renal Calculi, Diagnosis and Treatment, based chiefly on the records of a series of 33 cases under his own care. Mr. Thomas emphasised the value of x rays in the confirmation of the diagnosis and suggested that if it were possible to obtain a really good skiagram a surgeon was barely justified nowadays in operating unless and until such a photograph had been obtained. He exhibited a large number of very beautiful x ray photographs taken by Dr. C. Thurstan Holland of Liverpool.—The paper was followed by a discussion.

also referred to various facts connected with the incidence of summer diarrhœa at times and in places where flies were more likely to be an active cause than dust. He quoted from the experience of Dr. H. H. Tooth and others in South Africa in support of his contention. In his opinion the best way to dispose of excreta, keeping the above object in view, was that advocated by the late Dr. G. Vivian Poore in his "Flies and the Science of Scavenging." That method was the burial of all excreta in shallow trenches before the eggs of flies could be laid in them. Half an acre should on this principle be sufficient for 1000 men for a year. The method had the advantage of being simple and requiring but little in the way of appliances. Stationary hospitals would as a rule be in the neighbourhood of, if not actually in, a town of some size. The water-supply would be that of the town, but it would be advisable to dispose of the refuse of these institutions by burial and not by connecting the hospital with the drainage of the town in question. Coming to the diseases actually to be expected on the occasion of mobilisation, he said that in his opinion those of the alvine class would be by far the most important, and he emphasised the importance of both constipation and diarrhœa being early recognised and treated, as being both of them likely to be precursors of more serious disorder. Dysentery and enteric fever were then touched on, together with a reference to the difficulty of distinguishing which amongst the enormous mass of alvine and febrile diseases were not enteric fever. The isolation of cases of enteric fever was insisted on. Diphtheria and measles were referred to and the danger of the latter when large numbers of men were congregated together was mentioned. Pneumonia and rheumatic fever were also touched on. In speaking of small-pox it was pointed out that no provision was made for the effective vaccination of the Territorial Army. The absence of systematic secondary vaccination in this country and the number of individuals who escaped even the primary operation were considered to constitute a grave danger. In conclusion Captain Salisbury-Sharpe said that he had worked on the assumption that some months would elapse between mobilisation and the actual outbreak of hostilities or invasion. His paper was not intended to refer to actual war conditions.

Colonel **DOUGLAS WARDROP**, R.A.M.C., said that he doubted if there would be so much enteric fever as Captain Salisbury-Sharpe anticipated; he thought that with carefully selected camps and men coming from healthy homes better results might be hoped for. Indian experience made him sceptical of the infallibility of an earth system of disposal such as advocated by Dr. Poore and supported by the lecturer, in the absence of a highly trained conservancy establishment.

Major W. S. **HARRISON**, R.A.M.C., said that it was a pity that no reference had been made to the necessity of educating the soldier in peace for the necessary exposure to infection that he must expect in war. He referred to the desirability of protective inoculation against enteric fever, pointing out that recent experiments showed that the enteric fever bacillus could live for 60 days in unsterilised earth, and that therefore in an earth system of disposal there would be a danger of establishing foci of infection.

Lieutenant-Colonel H. J. **FLETCHER**, R.A.M.C., referred briefly to the experience of the Americans during the early part of the Spanish war and expressed the opinion that principal medical officers of territorial divisions should take steps in advance of mobilisation to counteract enteric fever.

Major F. J. **WADE-BROWN**, R.A.M.C., and Lieutenant-Colonel C. H. **MELVILLE**, R.A.M.C., also took part in the discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

An Abnormal Placenta.—Operative Treatment of Puerperal Infection.

A MEETING of this section was held on April 10th, Mr. E. **HASTINGS TWEEDY**, the President, being in the chair.

Mr. J. **SPENCER SHEILL** read a pathological report by Dr. R. J. **ROWLETTE** on the Abnormal Placenta exhibited at the previous meeting of the section, as some of the Fellows then present had stated that they had never seen a specimen similar to the one exhibited by Mr. Sheill. The placenta was slightly larger than normal and quite firm. The umbilical vessels were very congested and stood out prominently on the surface of the placenta. Completely surrounding the attachment of the cord and at a distance of about two inches was a raised ridge, varying from one and a half to two and a half inches high; it bent towards the cord so as to form a deep fossa, the inner surface of the ridge being in apposition with the surface of the placenta. The membranes were closely adherent to the surface of the placenta, passing into the depth of the fossa and then over the ridge. Under the microscope the placental tissue was normal. At the ridge, however, the membrane was lifted from the tissue by a great mass of fibrinous coagulum which was quite firm. The greater part of the ridge seemed to be composed of fibrin. The condition was apparently due to a sub-membranous hæmorrhage.—Sir **ARTHUR V. MACAN** expressed the opinion that it was simply an exaggerated placenta circumvallata.—Mr. **SHEILL**, in reply, said that although he was unable to suggest a probable cause for this placental abnormality yet he could not agree with Sir Arthur Macan's opinion, inasmuch as he understood that the so-called placenta circumvallata invariably showed the chorion forming a rigid annular fold at the inner limit of the margin. Neither did he think that it was a case of placenta marginata, for in these the chorion usually left the placenta *before* reaching its margin, thereby leaving a border free of membrane. In his specimen the chorion was attached all round to the placental margin in the usual way.

Dr. A. N. **HOLMES** opened the adjourned discussion on Sir Arthur Macan's paper on the Operative Treatment of Puerperal Infection. He said that there was a difficulty in deciding with a case not undoubtedly septic as to whether an operation was justifiable or not. He had seen cases apparently at the point of death get perfectly well. Evacuation was, of course, the best means of dealing with localised pus; and the making of an opening through the posterior fornix—an easy operation which did not necessitate the removal of the patient from bed—had been followed by good results. When the number of septic cases that existed was considered the mortality was really very small, and it would be unwise to operate in all cases until differential diagnosis was more perfect.—Professor **ALFRED J. SMITH** said that they accepted generally the two great classes of infection—pyogenic and saprophytic; and they divided the former into the forms in which the infection was carried—namely, (1) by the lymph-ducts and (2) by the blood stream. Dr. Bumm had demonstrated the fact that if a patient was infected by the streptococcus it developed and spread with such rapidity that there was no time for the surgeon to intervene. They were all in agreement as to the necessity of draining in cases of pus formation, though there was a difference of opinion as to the way in which they should reach the abscess. Sir Arthur Macan had proposed a special operation with a view to prevent the occurrence of general peritonitis, but he (Professor Smith) could not understand the advantage of packing the entire pelvic cavity, seeing that the uterus, in a case of septicæmia after confinement, was almost up to the umbilicus, and that on the posterior wall of the uterus there was the great lymphatic plexus carrying large numbers of streptococci. On the Continent and in America cases had been successfully treated by ligation of the inflamed veins but the whole difficulty consisted in deciding when they should interfere by operation.—Dr. R. D. **PUREFOY** said that he refused to believe that any examination of the contents of the uterus would enable them to make up their minds in every case, or even in any considerable number of cases, on the point of operative interference. In the cases of streptococcus infection the spread of the disease was so rapid and its diffusion through the system so general that surgical measures did not hold out hope of saving life.—Dr. H. **JELLETT** said that the more he thought about the subject the more hopelessly he seemed to be at sea. He could not understand where the operative treatment of acute puerperal fever came in. The operative treatment of local infections had been recognised for some time, but this was not what they were concerned with. Even if the presence of streptococci in the uterus was shown the bacteriologist could give them no help as to the virulence of the organism until after injection into animals, and by that time either the patient was better or it was too late for operation. If the infection had not extended into the peritoneal cavity it was contrary to all present-day ideas to open up the cavity. If the infection had gone beyond the uterus the analogy of limb a few weeks' duration a skilled opinion should be taken, and he very rightly says that many lives would be saved and much suffering avoided if this rule were only more widely recognised and acted upon. In tuberculous laryngitis rest of the voice is strongly insisted upon and milder forms of treatment are given precedence over the radical measures recommended by some authors. In removing foreign bodies from the trachea the direct method of removing the body through a Killian's tube is recommended and if this fails recourse should be had to tracheotomy. The chapters on paralysis and various neuroses are very clear and explicit. In discussing laryngeal vertigo all the various views that have been expressed as regards its origin are discussed. At the end of the book the author gives a collection of 75 prescriptions for various remedies for local application and internal administration.

Mr. Tilley's book, which we gather is in a way intended as a successor to the volume which he edited with Dr. F. de Havilland Hall, has certainly achieved a marked superiority over its predecessor. It is clearly written, well illustrated, and readable, and is a book to which students and practitioners of medicine may turn with confidence.

The Diagnosis and Treatment of Diseases of Women. By HARRY STURGEON CROSSEN, M.D., Clinical Professor of Gynæcology, Washington University; Consulting Gynæcologist to Bethesda Hospital, St. Louis, &c. St. Louis: C. V. Mosby; Medical Book and Publishing Company. 1907. Royal 8vo, pp. 812, 700 illustrations. Price $6.

THE most striking feature of Dr. Crossen's text-book is the large number of illustrations which it contains. They have been selected from all the most important works on gynæcology and are supplemented by original drawings showing the various methods of carrying out the proper examination of the pelvic organs. There are also some most interesting and helpful figures to indicate the areas of pain in different pelvic affections and the anatomical relations of the various structures in the abdomen. An ingenious device is adopted to demonstrate the limits of tumours or collections of fluid in the abdominal cavity. Black webbing is gummed on the abdomen over the area which it is wished to outline and in this way its exact limits are very clearly defined in the drawings reproduced. The book is almost entirely concerned with the diagnosis and treatment of the diseases of women. No notice is taken of other considerations such as etiology or pathology except so far as is absolutely necessary for the sake of completeness, and but a small amount of space has been taken up with detailed descriptions of the technique of major operations.

The author's teaching on the majority of subjects is sound and trustworthy. The chief facts are put clearly and succinctly and medical treatment is considered in considerable detail. After two chapters devoted to general points in diagnosis and treatment, the affections of the various genital organs are discussed, an anatomical classification being adopted. The section dealing with the indications for, and the use of, pessaries is particularly good and clear, while the operative procedures suitable for the treatment of backward displacements of the uterus are given very fully. After a very careful summing up of all the evidence available for coming to a certain conclusion as to the real dangers of fibroid tumours the author concludes that as a general rule such tumours are best removed and that in quite a notable percentage of the cases symptoms requiring treatment arise sooner or later. As he rightly points out, the question is a difficult one to decide because no one observer is able to follow the natural course of these patients for a sufficient length of time, and fibroids which are noted when first seen as giving rise to no symptoms may well be the cause of very considerable disturbances of the patient's health in after years. The known facts at our disposal are not yet sufficient to enable us to state precisely what are the possible and probable dangers to a patient who has a fibroid tumour of the uterus; nor, indeed, at the present day, when it is becoming, rightly or wrongly, more and more the custom for gynæcologists to remove these tumours in the early stages of their growth, are we likely to obtain a sufficient number of long histories of these cases to enable us to come to a certain conclusion. That they are not infrequently a source of danger is certain and that the best results are likely to follow their removal when still small is beyond dispute, but what are the chances of an individual patient running any risk to her life from the presence of a simple uncomplicated fibroid is a problem which we cannot answer with certainty. Other interesting questions, as, for example, the treatment of cancer of the cervix by abdominal section and the operative treatment of pelvic inflammation, are discussed fully and the author's conclusions are marked by sound judgment and are such as will commend themselves to most English gynæcologists.

The book is a good specimen of its class and is likely to prove helpful to the student.

Practical Diagnosis: the Use of Symptoms and Physical Signs in the Diagnosis of Disease. By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital. Sixth edition, revised and enlarged. Illustrated with 203 engravings and 16 plates. London: Henry Kimpton. 1907. Pp. 616. Price 21s.

WHEN a student commences the study of practical medicine his thoughts are generally so taken up with the technique of eliciting physical signs and the recognition of the many varieties of adventitious sounds which may be heard, for example, on examining the chest, that he is liable to forget the importance of being able to deduce the necessary conclusions from these signs. In other words, his attention is devoted to obtaining physical signs rather than to reading them. Further, he is prone to rush at a diagnosis, basing his opinion upon one physical sign and forgetting that a correct diagnosis can only be arrived at by a consideration of an assemblage of signs and progression of symptoms. In a short paragraph placed opposite to the title-page of the volume now before us Dr. Hare expresses a similar dictum and adds: "It is as futile for a physician to attempt to base a diagnosis upon one symptom as for an architect to attempt to determine the appearance of a house by seeing one of the stones which has been removed from its walls."

Dr. Hare's intention in writing this book was to place before the physician and the student the subject of medical diagnosis as it is met at the bedside. To accomplish this the symptoms used in diagnosis are first discussed and their application to determine the character of the disease follows. That the author has successfully accomplished the task which he set himself is proved by the fact that a sixth edition of the work has been called for.

For purposes of reference the book will be found of special value since it is written on a plan most easily followed in practice—namely, forming a diagnosis by grouping the symptoms. For instance, if vomiting is a marked symptom in the case which is being investigated, in the chapter under that heading will be found a description of the various causes of vomiting and its diagnostic significance, together with the differentiation of each disease in which this phenomenon is met with. By carefully studying this work the student will obtain considerable insight into the information which may be obtained from careful observation. For instance, the chapters dealing with the hands and arms and the feet and legs contain numerous hints

Reviews and Notices of Books.

A Manual of the Practice and Theory of Medicine. By Sir WILLIAM WHITLA, M.A., M.D. R.U.I., LL.D., Senior Physician to, and Lecturer on Clinical Medicine at, the Royal Victoria Hospital; Professor of Materia Medica and Therapeutics in Queen's College, Belfast. In two volumes. London: Henry Renshaw. 1908. Pp. (two volumes) 1900.

Sir William Whitla states in the preface to this book that the aim of the work is to afford to the busy practitioner, in the most convenient and condensed form, a series of independent articles upon the different diseases (including those of the skin) which fall under the province of the physician. After a perusal of the two volumes we agree with the author that a more correct and suitable title for the work would have been "A Dictionary of Medicine" or "A Medical Index." Sir William Whitla feared, however, that such a nomenclature would lead to confusion as regards his "Dictionary of Treatment," to which the books now before us may be accepted as an introduction. The dictionary form of the work has necessitated a certain amount of repetition, as the aim of each article is to give a condensed and more or less isolated description of the etiology, pathology, symptomatology, diagnosis, and a brief *résumé* of the treatment of each medical affection. That portion of each article which deals with the subject of differential diagnosis is planned so that as far as possible cross-references are avoided, the reader being enabled to contrast the more important distinguishing clinical features of diseases liable to be confused with each other without having to turn to different portions of the work.

Sir William Whitla has succeeded in placing a vast amount of information within these two volumes. The various sections are well written and comprise a full account of the numerous diseases which are considered. The paragraphs dealing with etiology and pathology are fully up to date, the clinical phenomena are well described, while numerous valuable hints are given in regard to treatment. We have been particularly interested in certain of the sections. For instance, the remarks on broncho-pneumonia are well worthy of careful study, for the etiology of this condition is not generally understood. The author points out that two forms of the disease may be recognised, the primary and the secondary, and the causal factors at work differ in each case. In the primary form the etiological factors may be accepted as those which are present in ordinary acute lobar or croupous pneumonia, with the exception that the disease is practically confined to childhood. In the secondary form, whilst the pneumococcus is sometimes present, there are almost invariably other micro-organisms acting as well, and we agree with the author when he says that the generally accepted view of the origin of this form of the disease is that of a multiple infection in which the pneumococcus need not necessarily figure. A good account is given of the morbid anatomy of broncho-pneumonia and its clinical aspects are carefully detailed.

The section dealing with Bright's disease, acute and chronic, will also be found instructive, especially those portions dealing with treatment. Speaking of chronic interstitial nephritis the author maintains that there are few incurable conditions which the physician can approach with the same calm confidence of being able to prolong life and to retard the natural progress of a disease which, though ultimately proceeding to a fatal issue, may be modified or for a time arrested by judicious management. Useful directions are given as to the general course to be adopted with patients suffering from this condition.

Dyspepsia, the result of gastric neurosis, is considered at length, special stress being laid on the chemical pathology and on treatment. Three types of gastric neuroses are described: (1) sensory; (2) secretory; and (3) neuro-motor. This classification is a convenient and practical one. The student is liable to neglect a study of this common malady whilst attending the wards and the out-patient rooms, but when entering on practice he will require to systematise his knowledge on the subject and the sections contained in this text-book will help him to do so.

Excellent accounts are given of tuberculosis as affecting the various organs of the body, especially the pulmonary variety. The sections on the specific fevers are full and explicit, the remarks on diagnosis being especially valuable. The section devoted to enteric fever is one of the best in the book and we may draw the reader's attention to the observations on prognosis which will be found of considerable aid in actual practice.

We can cordially recommend this book to the practitioner as a useful work of reference. Its contents are rendered more suitable for this purpose by the fact that each volume contains a complete index to the two volumes, so that any required information can be obtained easily.

Diseases of the Nose and Throat. By HERBERT TILLEY, B.S. Lond., F.R.C.S. Eng. With 126 illustrations. London: H. K. Lewis. 1908. Pp. 539. Price 14s. net.

Mr. Tilley first gives a brief account of the anatomy and physiology of the nose. The next chapter consists of an all too short description of the examination of the nose and the methods used; this portion of the work might with advantage be considerably enlarged. He next proceeds with a description of the various forms of rhinitis. We notice that when describing the after-treatment he does not warn the tyro in nasal surgery that after the use of the galvano-cautery the patient should be prohibited from blowing the nose for some hours in order to diminish the risk of hæmorrhage. In dealing with rhinitis sicca a little more space might have been occupied, especially as regards the views of continental authorities that the bleeding polypus of the septum is often found in connexion with this disease. In membranous rhinitis we observe that the author admits the possibility of other infections being present besides that of the diphtheria bacillus. The part of the book on nasal reflex neuroses leaves nothing to be desired, the whole treatment of the subject being extremely temperate, and Mr. Tilley is to be congratulated on the excellent way in which he discusses the matter. He divides nasal obstruction into two classes—one in which the structural changes are brought about by mechanical factors, and another in which the general symptoms are due to an unnatural method of breathing. The preparation known as eudrinine is recommended as being the best local anæsthetic for operations on the septum. With regard to the etiology of nasal polypi both Woakes's and Yonge's theories are given but the preference of probability is given to Woakes's. When the reader comes to diseases of the accessory sinuses of the nose he will appreciate the intimate knowledge which is exhibited and the careful manner in which all operative procedures are discussed and described. In the frontal sinus operation the incision recommended is through the eyebrow. This occasionally has the disadvantage of destroying the hair bulbs and leaving a very unsightly scar. The only complaint we might make of this section is that the description of Killian's operation is, perhaps, enough for the expert but the information given is certainly not sufficient for the novice.

The second half of the book is devoted to diseases of the larynx. The author's instructions as to the use of the laryngoscope are sufficiently full. He lays much stress on the golden rule that when an adult complains of hoarseness or alteration of the voice of more than nearly all of the complications and accidents which have occurred as a result of the injection of paraffin have followed the employment of a paraffin melting below 110° F., and we agree with the authors that the employment of a paraffin of a melting point higher than this is desirable. We cannot agree with Eckstein that 136° F. is a desirable melting point, for the risk of burning is great and the practical difficulties during use are by no means small. It must be recognised that the use of paraffin in surgery is reasonable and gives good results in careful hands, but its employment is not without a small element of danger and even fatal results have occurred. A skilful surgeon, however, can sometimes by the use of paraffin produce results unattainable otherwise and the risk is small. When a paraffin of suitable melting point is chosen the results are apparently permanent.

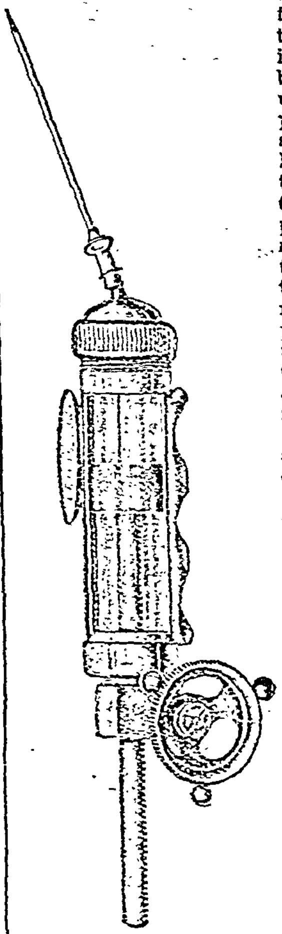
A Manual of Orthopædic Surgery. By AUGUSTUS THORNDIKE, M.D., Assistant in Orthopædics at the Harvard Medical School; Visiting Surgeon to the House of the Good Samaritan; Assistant Orthopædic Surgeon to the Children's Hospital, &c. With 191 illustrations. London: Rebman, Limited. 1907. Pp. 401. Price 10*s.* 6*d.* net.—There is room for a small book on orthopædic surgery. The subjects included under this title are indeed mentioned and described in the general text-books of surgery but the senior student finds that he requires more, and such a book as this is very well suited to supply this want. The descriptions of treatment are sufficiently lengthy to be of practical use and treatment is after all the part that is most needed. The author is moderate in his views and there is hardly any statement to which exception need be taken. The book is adequately illustrated. We do not know a better work on orthopædics for its size.

New Inventions.

NOTE ON A NEW SYRINGE FOR THE INJECTION OF IODIPIN, WITH A DESCRIPTION OF THE METHOD OF USING.

IODIPIN, an additive compound of iodine and sesame oil, is a thick yellow oil and is prepared in two strengths—namely, 10 per cent. and 25 per cent. The latter is that most commonly employed for subcutaneous or, preferably, intramuscular injection. Hitherto the intramuscular injection of iodipin has been always attended with a certain amount of difficulty—firstly, owing to the oily and viscid properties of the preparation, which, even when the syringe has been carefully warmed over a Bunsen flame, necessitates considerable force being employed in giving the injection; secondly, the comparatively long time required for the procedure (especially when large doses of iodipin are to be given, i.e., up to 30 cubic centimetres); and last, and by no means least, there is the danger of piercing a vein. The force required to push down the piston makes it almost impossible to hold the instrument absolutely still. The lateral quivering movement thereby produced is apt to cause unnecessary pain, and the up-and-down movement in the long axis of the needle may lead to penetration of a vein, thus leading to the introduction of iodipin into the venous circulation, and so producing a pulmonary embolism and its attendant dangerous consequences. There is also an unpleasant side to the operation—the prolonged period required to give the injection and the disagreeable and often painful sensation caused by such a large quantity of fluid penetrating the tissues of the buttock may give rise to the phenomena of vertigo or syncope. The psychological element has also to be taken into consideration and patients often become nervous and frightened and so are prevented from keeping absolutely still.

Now that iodipin for intramuscular injection is being more widely employed it may be of advantage to introduce a syringe by the use of which these disadvantages can be overcome. This syringe was invented by Dr. Anton Lieven of Aix-la-Chapelle, and after considerable experience in its use I have come to the conclusion that it is quite the best. The salient points of the syringe are: 1. The piston is moved up and down by a rack-and-pinion movement, actuated by a small wheel, with a milled edge, at the side. By this means a quick emptying of the syringe is made possible and considerable force is attained which can be regulated at will. The simple turning of the wheel does not produce any kind of movement or "kick" of the needle, so that all danger of unintentional movement of the needle point is eliminated. 2. The nozzle, on to which the needle fits, is bent at an obtuse angle, so that the holding of the syringe is facilitated if the injection is being given to the patient in an upright position. 3. In order to prevent any rotation of the syringe and also to give a good hold to the fingers when giving the "stab" which is to introduce the needle there are "rests" provided on each side of the metal casing, on the one side for the thumb and on the other for the three fingers. The injection may be given either with the patient lying on a couch or in the upright position. The skin of the buttock is cleaned with ether and then rubbed over with a swab moistened with a solution of biniodide of mercury. The actual situation for the introduction of the needle is preferably in the outer and upper quadrant of the buttock, there being said to be fewer vessels in this locality. The needle, having been previously sterilised by boiling in a solution of common soda, is attached to the nozzle of the syringe and is then introduced into the buttock by a sharp stab. The syringe is then removed, the needle being left *in situ*, and a short space of time is allowed to elapse in order that it may be seen if a blood-vessel has been entered, which mishap would at once become apparent by the exudation of a few drops of blood from the end of the needle. Should this occur the needle must be withdrawn and introduced afresh, and so on, until a spot is reached where no blood passes back through the needle. In the majority of cases there is no need to introduce the needle a second time. The syringe, having been warmed over a flame, is now fitted on to the needle and emptied by rotating the wheel. The rate at which the syringe should be emptied should be gauged by the amount of pain and discomfort caused to the patient. The syringe and needle are then withdrawn, the site of the injection is massaged for a few seconds with the finger tips, and a dressing of gauze and collodion is applied.



The maker of the syringe is Mr. A. Bildheuser, Kleinkölnstrasse, Aachen.

DOUGLAS H. FRESHWATER, M.B., B.C. Cantab.,
M.R.C.S. Eng., L.R.C.P. Lond.,
Assistant in the Skin Department, St. George's Hospital.
Harley-street, W.

INVALID CHILDREN'S AID ASSOCIATION.—The annual meeting of the Invalid Children's Aid Association will be held, by kind permission of the Duke of Westminster, at Grosvenor House, Upper Grosvenor-street, W., on Wednesday, May 13th, at 3 o'clock. Sir Edgar Speyer will preside and the Reverend Father Waggett, Dr. Andrew Lang, Mr. D'Arcy Power, F R C.S. Eng., Mr. E. A. H. Jay, L.C.C., and Mrs. Bourchier (Violet Vanbrugh) will be among the speakers. Admission will be by tickets only, application for which may be made to the secretary, 69, Denison House, Vauxhall Bridge-road, Westminster, S.W.

which will prove of great aid in diagnosis. The many deformities of the limbs are admirably described and a careful consideration is afforded of the differential diagnosis of the various alterations in the appearance of the hands and feet produced by diseases of the nervous system.

When engaged as "clinical clerks," either in the wards or out-patient rooms, students will find this work of great value to them. For although clinical work can only be studied by the actual examination of patients, nevertheless a guide of the nature of Dr. Hare's manual is certainly desirable. The book is well printed and the numerous illustrations are beautifully executed.

The Black Death of 1348 and 1349. By FRANCIS AIDAN GASQUET, D.D. London: George Bell and Sons. 1908. Pp. xxv.-272. Price 6*s.* net.

Dr. Gasquet, who is the Abbot President of the English Benedictines, is well known as one of the most learned members of the great religious order which since the time of its foundation has given itself with special devotion to learning. The book now before us is a reprint of the first edition, which appeared in 1893, with one or two additions and corrections. The Great Pestilence, for the name "Black Death" was comparatively modern,[1] as Dr. Gasquet points out on p. 7, ravaged the whole of Europe during the period 1348-50. It was apparently a particularly malignant form of Oriental plague mainly of the pneumonic type. One unusual feature about the epidemic was the way in which animals were affected. Not only rats, but dogs, cats, and sheep suffered greatly. Pigs and cattle are also mentioned in contemporary records as being attacked with fatal results. The mortality amongst human beings was appalling; for instance, in England and Wales about half the whole population died. Such a cataclysm is of interest not merely from the medical point of view but even more from that of the historian and the student of social events. For, to quote Dr. Gasquet, the Great Pestilence "formed the real close of the Mediæval period and the beginning of our Modern age; ...... to use a modern expression, labour began then to understand its value and assert its power." In fact, all seemingly settled institutions were broken up and had to be built up anew.

Dr. Gasquet's book deserves careful study by all medical men and by all who are concerned with the health of the body politic. Its style is lucid and simple and we may add without fear of being misunderstood that the chief value of the book is that the statements are not those of Dr. Gasquet but of contemporary writers who wrote with first-hand knowledge. But the arrangement of these statements, their codifying, and the conclusions to be drawn from them are Dr. Gasquet's, which is as much as to say they are those of a learned, impartial, and judicious critic.

LIBRARY TABLE.

A Course of Practical Organic Chemistry. By T. SLATER PRICE, D.Sc., Ph.D., F.I.C., Head of the Chemical Department of the Birmingham Municipal Technical School; and DOUGLAS F. TWISS, M.Sc., A.I.C., Lecturer on Chemistry at the Birmingham Municipal Technical School. London: Longmans, Green, and Co. 1907. Pp. 239. Price 3*s.* 6*d.*—This book provides a most useful practical course in organic chemistry and is modelled on the lines of the *Board of Education* syllabus which is sufficiently comprehensive to have necessitated hitherto the consultation of different books for different parts of the subject. The syllabus is divided into three stages corresponding with Parts I., II., and III. of this book. The opening chapter deals with elementary proceedings, such as the determination of physical constants and the detection of the elements and gives a few preliminary notes on preparations. Methane, ethyl alcohol, formic acid, acetic acid, formaldehyde, ether, ethyl compounds, and acetone follow, to be succeeded by chapters on the acids, urea, cyanides, starches, sugars, and so forth, this part concluding with a scheme for the identification of any compound contained in the first stage of the syllabus. More advanced work follows in Parts II. and III. The paragraphs on preparations are excellent and eminently practical, and the tests described bear the evidence of a laboratory acquaintance with their value. The scheme is worked out thoroughly and clearly from beginning to end and should make what is to many often a difficult course easy and intelligible.

Annales Médicales et Bulletin de Statistique de l'Hôpital d'Enfants Hamidié. VIII^me^ année. Edited by Dr. IBRAHIM PACHA, Director-in-Chief, in collaboration with the medical staff of the hospital. Constantinople: Imprimerie Osmanié: 1907.—This publication has now reached dimensions which any hospital might be proud to claim for its "reports" and is of great interest as showing to what extent the Western ideals of medical practice and research are becoming implanted in Eastern minds. Another pleasing feature of the *Bulletin* is the proof which it affords of the humanitarian interest taken by the Sultan of Turkey in the welfare of the sick and poor of his country. The Hamidié Hospital, which he founded in 1898 in memory of his daughter, the Princess Imperial Hadidjé, already owes much to his generosity, and this *Bulletin* chronicles the completion of a gynæcological wing at the expense of the privy purse and also the erection of a sanatorium for pulmonary tuberculosis in connexion with the hospital in the pine forest above the plain of Kutahia. The *Bulletin* states that the equipment of the hospital is now thoroughly in accord with Western requirements and one of its latest acquisitions is an installation of lighting and gas. Most of the papers are written in Turkish; they include clinical observations, scientific studies, and a little popular instruction in hygiene. Some few of them are communicated in French and German, amongst which are A Case of Strangulated Diaphragmatic Hernia, by S. E. Dr. Alexandre Pacha Kambouroglou; the Surgical Treatment of Hydatid Cysts of the Liver, by Dr. Léon de Lacombe; Erythema Infectiosum, by Professor Theodor Escherich; a Study of Recklinghausen's Disease, by Dr. Chukri Mehmed; and Vesical Calculus, by Dr. Raïf bey. The reports are well illustrated with reproductions of many photographs. A long list of honours which have been awarded to members of the hospital staff is printed in the annals.

Paraffin in Surgery: A Critical and Clinical Study. By WILLIAM H. LUCKETT, B.S., M.D., Attending Surgeon, Harlem Hospital; Surgeon, Mount Sinai Hospital Dispensary; and FRANK I. HORN, M.D., Assistant Surgeon, Mount Sinai Hospital Dispensary, New York City. With 38 illustrations. New York: Surgery Publishing Company. 1907. Pp. 116. Price $2.—The time had certainly arrived for the appearance of a work dealing thoroughly with the rôle of paraffin in surgery. Seven years have elapsed since Gersuny's original article appeared in the *Zeitschrift für Heilkunde* and much progress has been made. It must not be forgotten that the method was first introduced for the treatment of prolapse of the rectum, and the application of the method to the cosmetic relief of saddleback noses was a later development. In this little book the authors give a good account of the use of paraffin and they show what happens to the paraffin after it is injected. They prove fairly clearly that nearly all of the complications and accidents which have occurred as a result of the injection of paraffin have followed the employment of a paraffin melting below 110° F., and we agree with the authors that the employment of a paraffin of a melting point higher than this is desirable. We cannot agree with Eckstein that 136° F. is a desirable melting point, for the risk of burning is great and the practical difficulties during use are by no means small. It must be recognised that the use of paraffin in surgery is reasonable and gives good results in careful hands, but its employment is not without a small element of danger and even fatal results have occurred. A skilful surgeon, however, can sometimes by the use of paraffin produce results unattainable otherwise and the risk is small. When a paraffin of suitable melting point is chosen the results are apparently permanent.

---

[1] Dr. William Sykes, in an article, "On the Origin and History of some Disease Names," which appeared in our issue of April 11th, 1896, p. 1007, says: "The 'Black Death' which ravaged Europe during the years 1348-50 with such terrible results is not to be found in any contemporary literature under that name, which has been shown by Dr. Murray in the New English Dictionary to have had no more recondite a source than Mrs. Markham's 'History of England,' published no earlier than the beginning of the present century for the instruction of children."

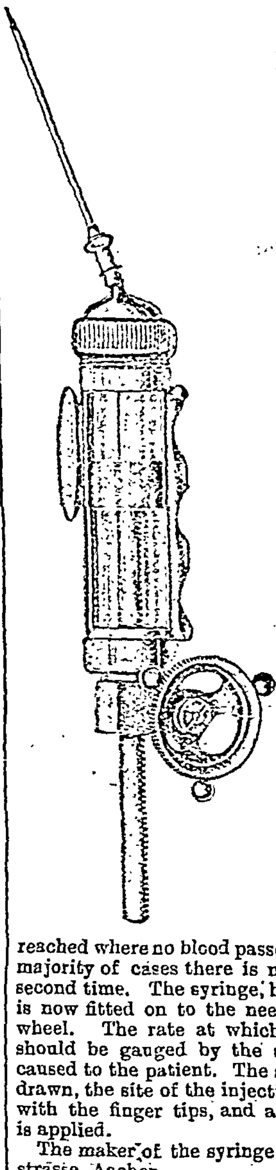
A Manual of Orthopædic Surgery. By AUGUSTUS THORNDIKE, M.D., Assistant in Orthopædics at the Harvard Medical School; Visiting Surgeon to the House of the Good Samaritan; Assistant Orthopædic Surgeon to the Children's Hospital, &c. With 191 illustrations. London: Rebman, Limited. 1907. Pp. 401. Price 10*s.* 6*d.* net.—There is room for a small book on orthopædic surgery. The subjects included under this title are indeed mentioned and described in the general text-books of surgery but the senior student finds that he requires more, and such a book as this is very well suited to supply this want. The descriptions of treatment are sufficiently lengthy to be of practical use and treatment is after all the part that is most needed. The author is moderate in his views and there is hardly any statement to which exception need be taken. The book is adequately illustrated. We do not know a better work on orthopædics for its size.

New Inventions.

NOTE ON A NEW SYRINGE FOR THE INJECTION OF IODIPIN, WITH A DESCRIPTION OF THE METHOD OF USING.

IODIPIN, an additive compound of iodine and sesame oil, is a thick yellow oil and is prepared in two strengths—namely, 10 per cent. and 25 per cent. The latter is that most commonly employed for subcutaneous or, preferably, intramuscular injection. Hitherto the intramuscular injection of iodipin has been always attended with a certain amount of difficulty—firstly, owing to the oily and viscid properties of the preparation, which, even when the syringe has been carefully warmed over a Bunsen flame, necessitates considerable force being employed in giving the injection; secondly, the comparatively long time required for the procedure (especially when large doses of iodipin are to be given, i.e., up to 30 cubic centimetres); and last, and by no means least, there is the danger of piercing a vein. The force required to push down the piston makes it almost impossible to hold the instrument absolutely still. The lateral quivering movement thereby produced is apt to cause unnecessary pain, and the up-and-down movement in the long axis of the needle may lead to penetration of a vein, thus leading to the introduction of iodipin into the venous circulation, and so producing a pulmonary embolism and its attendant dangerous consequences. There is also an unpleasant side to the operation—the prolonged period required to give the injection and the disagreeable and often painful sensation caused by such a large quantity of fluid penetrating the tissues of the buttock may give rise to the phenomena of vertigo or syncope. The psychological element has also to be taken into consideration and patients often become nervous and frightened and so are prevented from keeping absolutely still.

Now that iodipin for intramuscular injection is being more widely employed it may be of advantage to introduce a syringe by the use of which these disadvantages can be overcome. This syringe was invented by Dr. Anton Lieven of Aix-la-Chapelle, and after considerable experience in its use I have come to the conclusion that it is quite the best. The salient points of the syringe are: 1. The piston is moved up and down by a rack-and-pinion movement, actuated by a small wheel, with a milled edge, at the side. By this means a quick emptying of the syringe is made possible and considerable force is attained which can be regulated at will. The simple turning of the wheel does not produce any kind of movement or "kick" of the needle, so that all danger of unintentional movement of the needle point is eliminated. 2. The nozzle, on to which the needle fits, is bent at an obtuse angle, so that the holding of the syringe is facilitated if the injection is being given to the patient in an upright position. 3. In order to prevent any rotation of the syringe and also to give a good hold to the fingers when giving the "stab" which is to introduce the needle there are "rests" provided on each side of the metal casing, on the one side for the thumb and on the other for the three fingers. The injection may be given either with the patient lying on a couch or in the upright position. The skin of the buttock is cleaned with ether and then rubbed over with a swab moistened with a solution of biniodide of mercury. The actual situation for the introduction of the needle is preferably in the outer and upper quadrant of the buttock, there being said to be fewer vessels in this locality. The needle, having been previously sterilised by boiling in a solution of common soda, is attached to the nozzle of the syringe and is then introduced into the buttock by a sharp stab. The syringe is then removed, the needle being left *in situ*, and a short space of time is allowed to elapse in order that it may be seen if a blood-vessel has been entered, which mishap would at once become apparent by the exudation of a few drops of blood from the end of the needle. Should this occur the needle must be withdrawn and introduced afresh, and so on, until a spot is reached where no blood passes back through the needle. In the majority of cases there is no need to introduce the needle a second time. The syringe, having been warmed over a flame, is now fitted on to the needle and emptied by rotating the wheel. The rate at which the syringe should be emptied should be gauged by the amount of pain and discomfort caused to the patient. The syringe and needle are then withdrawn, the site of the injection is massaged for a few seconds with the finger tips, and a dressing of gauze and collodion is applied.



The maker of the syringe is Mr. A. Bildheuser, Kleinkölnstrasse, Aachen.

DOUGLAS H. FRESHWATER, M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond.,
Assistant in the Skin Department, St. George's Hospital.

Harley-street, W.

INVALID CHILDREN'S AID ASSOCIATION.—The annual meeting of the Invalid Children's Aid Association will be held, by kind permission of the Duke of Westminster, at Grosvenor House, Upper Grosvenor-street, W., on Wednesday, May 13th, at 3 o'clock. Sir Edgar Speyer will preside and the Reverend Father Waggett, Dr. Andrew Lang, Mr. D'Arcy Power, F.R.C.S. Eng., Mr. E. A. H. Jay, L.C.C., and Mrs. Bourchier (Violet Vanbrugh) will be among the speakers. Admission will be by tickets only, application for which may be made to the secretary, 69, Denison House, Vauxhall Bridge-road, Westminster, S.W.

which will prove of great aid in diagnosis. The many deformities of the limbs are admirably described and a careful consideration is afforded of the differential diagnosis of the various alterations in the appearance of the hands and feet produced by diseases of the nervous system.

When engaged as "clinical clerks," either in the wards or out-patient rooms, students will find this work of great value to them. For although clinical work can only be studied by the actual examination of patients, nevertheless a guide of the nature of Dr. Hare's manual is certainly desirable. The book is well printed and the numerous illustrations are beautifully executed.

The Black Death of 1348 and 1349. By FRANCIS AIDAN GASQUET, D.D. London: George Bell and Sons. 1908. Pp. xxv.-272. Price 6*s.* net.

Dr. Gasquet, who is the Abbot President of the English Benedictines, is well known as one of the most learned members of the great religious order which since the time of its foundation has given itself with special devotion to learning. The book now before us is a reprint of the first edition, which appeared in 1893, with one or two additions and corrections. The Great Pestilence, for the name "Black Death" was comparatively modern,[1] as Dr. Gasquet points out on p. 7, ravaged the whole of Europe during the period 1348-50. It was apparently a particularly malignant form of Oriental plague mainly of the pneumonic type. One unusual feature about the epidemic was the way in which animals were affected. Not only rats, but dogs, cats, and sheep suffered greatly. Pigs and cattle are also mentioned in contemporary records as being attacked with fatal results. The mortality amongst human beings was appalling; for instance, in England and Wales about half the whole population died. Such a cataclysm is of interest not merely from the medical point of view but even more from that of the historian and the student of social events. For, to quote Dr. Gasquet, the Great Pestilence "formed the real close of the Mediæval period and the beginning of our Modern age; ...... to use a modern expression, labour began then to understand its value and assert its power." In fact, all seemingly settled institutions were broken up and had to be built up anew.

Dr. Gasquet's book deserves careful study by all medical men and by all who are concerned with the health of the body politic. Its style is lucid and simple and we may add without fear of being misunderstood that the chief value of the book is that the statements are not those of Dr. Gasquet but of contemporary writers who wrote with first-hand knowledge. But the arrangement of these statements, their codifying, and the conclusions to be drawn from them are Dr. Gasquet's, which is as much as to say they are those of a learned, impartial, and judicious critic.

LIBRARY TABLE.

A Course of Practical Organic Chemistry. By T. SLATER PRICE, D.Sc., Ph.D., F.I.C., Head of the Chemical Department of the Birmingham Municipal Technical School; and DOUGLAS F. TWISS, M.Sc., A.I.C., Lecturer on Chemistry at the Birmingham Municipal Technical School. London: Longmans, Green, and Co. 1907. Pp. 239. Price 3*s.* 6*d.*—This book provides a most useful practical course in organic chemistry and is modelled on the lines of the Board of Education syllabus which is sufficiently comprehensive to have necessitated hitherto the consultation of different books for different parts of the subject. The syllabus is divided into three stages corresponding with Parts I., II., and III. of this book. The opening chapter deals with elementary proceedings, such as the determination of physical constants and the detection of the elements and gives a few preliminary notes on preparations. Methane, ethyl alcohol, formic acid, acetic acid, formaldehyde, ether, ethyl compounds, and acetone follow, to be succeeded by chapters on the acids, urea, cyanides, starches, sugars, and so forth, this part concluding with a scheme for the identification of any compound contained in the first stage of the syllabus. More advanced work follows in Parts II. and III. The paragraphs on preparations are excellent and eminently practical, and the tests described bear the evidence of a laboratory acquaintance with their value. The scheme is worked out thoroughly and clearly from beginning to end and should make what is to many often a difficult course easy and intelligible.

Annales Médicales et Bulletin de Statistique de l'Hôpital d'Enfants Hamidié. VIII^me^ année. Edited by Dr. IBRAHIM PACHA, Director-in-Chief, in collaboration with the medical staff of the hospital. Constantinople: Imprimerie Osmanié. 1907.—This publication has now reached dimensions which any hospital might be proud to claim for its "reports" and is of great interest as showing to what extent the Western ideals of medical practice and research are becoming implanted in Eastern minds. Another pleasing feature of the *Bulletin* is the proof which it affords of the humanitarian interest taken by the Sultan of Turkey in the welfare of the sick and poor of his country. The Hamidié Hospital, which he founded in 1898 in memory of his daughter, the Princess Imperial Hadidjé, already owes much to his generosity, and this *Bulletin* chronicles the completion of a gynæcological wing at the expense of the privy purse and also the erection of a sanatorium for pulmonary tuberculosis in connexion with the hospital in the pine forest above the plain of Kutahia. The *Bulletin* states that the equipment of the hospital is now thoroughly in accord with Western requirements and one of its latest acquisitions is an installation of lighting and gas. Most of the papers are written in Turkish; they include clinical observations, scientific studies, and a little popular instruction in hygiene. Some few of them are communicated in French and German, amongst which are A Case of Strangulated Diaphragmatic Hernia, by S. E. Dr. Alexandre *Pacha Kambouroglou*; the Surgical Treatment of Hydatid Cysts of the Liver, by Dr. Léon de Lacombe; Erythema Infectiosum, by Professor Theodor Escherich; a Study of Recklinghausen's Disease, by Dr. Chukri Mehmed; and Vesical Calculus, by Dr. Raïf bey. The reports are well illustrated with reproductions of many photographs. A long list of honours which have been awarded to members of the hospital staff is printed in the annals.

Paraffin in Surgery: A Critical and Clinical Study. By WILLIAM H. LUCKETT, B.S., M.D., Attending Surgeon, Harlem Hospital; Surgeon, Mount Sinai Hospital Dispensary; and FRANK I. HORN, M.D., Assistant Surgeon, Mount Sinai Hospital Dispensary, New York City. With 38 illustrations. New York: Surgery Publishing Company. 1907. Pp. 118. Price $2.—The time had certainly arrived for the appearance of a work dealing thoroughly with the rôle of paraffin in surgery. Seven years have elapsed since Gersuny's original article appeared in the *Zeitschrift für Heilkunde* and much progress has been made. It must not be forgotten that the method was first introduced for the treatment of prolapse of the rectum, and the application of the method to the cosmetic relief of saddleback noses was a later development. In this little book the authors give a good account of the use of paraffin and they show what happens to the paraffin after it is injected. They prove fairly clearly that

---

[1] Dr. William Sykes, in an article, "On the Origin and History of some Disease Names," which appeared in our issue of April 11th, 1836, p. 1007, says: "The 'Black Death' which ravaged Europe during the years 1348-50 with such terrible results is not to be found in any contemporary literature under that name, which has been shown by Dr. Murray in the New English Dictionary to have had no more recondite a source than Mrs. Markham's 'History of England,' published no earlier than the beginning of the present century for the instruction of children."

Trypanosomes and Trypanosomiases.

DR. NABARRO has done the medical profession in the United Kingdom a great service by the labour and industry which he has bestowed upon the translation of LAVERAN and MESNIL'S classical work on "Trypanosomes and Trypanosomiases."[1] He has produced an excellent translation and one free from the usual faults of language and style met with in so many translations. The drawback to the production of a translation of any work upon a subject of advancing knowledge is that before the book can be produced in its new and alien form fresh discoveries have rendered the original work well-nigh obsolete. Dr. NABARRO has overcome this difficulty and drawback by inserting in the text what has been done in elucidation of the subject of trypanosomes and trypanosomiases during the interval of time intervening between the issue of the original French edition and the appearance of the book in English. So skilfully have the interpolations been made that their inclusion in the text in no way interferes with the continuity of the narrative. Than Dr. NABARRO no one in this country is better qualified to deal with the subject matter of this important publication. A skilled bacteriologist, he has had the opportunity of studying trypanosomes and the ailments which they cause at close quarters in Uganda, where in 1903 he served as one of the members of the Royal Society Commission sent out from this country to study sleeping sickness.

The large volume before us constitutes an additional evidence of the marvellous advance in our knowledge of the etiology of disease consequent upon research in the field of tropical pathology. It is but seven years, on May 10th, 1901, to be precise, since FORDE found a parasite in the blood of a European on the Gambia which DUTTON subsequently recognised in December of the same year to be a trypanosome and appropriately named it the Trypanosoma Gambiense. FORDE and DUTTON'S observations were published in the *Journal of Tropical Medicine* of Sept. 1st, 1902, and since that time the literature not only of human trypanosomiasis but of trypanosomes in animals has multiplied with amazing rapidity. Our knowledge of trypanosomes and the diseases which they cause in animals has occupied attention for some 28 years. Although trypanosomes had been seen before 1880 in the blood of the trout (VALENTINE, 1841) and in the frog (GLUGE, MAYER, and GRUBY, 1842-1843) it was not until 1880 that the parasite was shown to possess a pathogenic significance by EVANS who demonstrated the trypanosome in the blood of horses and camels suffering from surra in India. The next great advance in the subject was made by BRUCE who in 1894 not only found trypanosomes to be the cause of nagana amongst horses and cattle in Zululand but subsequently proved the part played by tsetse flies in the distribution of the parasite. In South America an epizootic of horses termed "mal de caderas" was proved by ELMASSIAN and VOSGES in 1901 to be due to a trypanosome. In Europe dourine or "mal du coit" has been shown to be due to a trypanosome but is peculiar in that it is transmitted by coitus only. These were but the foundations on which the numerous observations now to hand were initiated, and in every laboratory in the civilised world experimental work has been actively carried on for the past decade, with the result that the literature of this subject has grown to an incredible extent. LAVERAN and MESNIL have undertaken the task of sifting, classifying, and reviewing this immense field of study and observation, and NABARRO has not only placed this storehouse of knowledge before English readers but has amplified the original work by important observations made by himself and others. Medical practitioners who are brought into contact with, or who wish to become acquainted with what is known concerning, sleeping sickness will naturally turn to the chapters in this volume dealing with human trypanosomiasis and the relation of trypanosomal infection to sleeping sickness. They will find that in April, 1903, CASTELLANI, working in Uganda, found trypanosomes in the cerebro-spinal fluid of patients suffering from sleeping sickness, an observation which was speedily confirmed by BRUCE and NABARRO. The trypanosome was shown by the last-named observers to be identical with the trypanosoma Gambiense and they also showed that the tsetse fly, glossina palpalis, is the principal transmitter of the disease. That other flies of this species, glossina fusca and glossina longipennis, are also capable of conveying the disease is certain, but so far the glossina palpalis is chiefly incriminated. The extent of NABARRO'S contributions to the volume, amounting in one section alone—namely, human trypanosomiasis—to about one-half of the entire text, greatly enhances the value of the work. Without these additions the translation would have been valueless as a representation of what is known at the present time concerning trypanosomes and the diseases which they occasion. By these additions, however, he original work is improved upon and students of the subject are provided with a complete, accurate, and recent account of the subject.

The treatment of trypanosomiases contained in Chapter XIII., extending to 24 pages, has been wholly written by NABARRO. The account of the part played by the lymphatic glands in the clinical history of sleeping sickness and the minute anatomy of the central nervous system and of other organs of the patients is also for the most part NABARRO'S writing. The lesions of the lymphatic glands in trypanosomal infection have been recently closely investigated. MOTT has shown that the deep paravertebral glands of the neck as well as other glands of the body in cases of sleeping sickness give in almost every instance signs of suppuration. To so marked an extent have lesions of the lymphatic glands been demonstrated that at the present time puncture of the cervical glands is regarded as the most trustworthy means of making the diagnosis of trypanosomiasis, and ZIEMANN and others state that to obtain a knowledge of the prevalence of trypanosomal infection in any given district it is only necessary to examine the cervical glands of the domestic animals indigenous to the district to come to a positive or negative conclusion in regard to the prevalence of the disease. In sleeping sickness areas also TODD and DUTTON found by practising gland palpation and puncture that every negro whose neck glands are enlarged without

---

[1] Trypanosomes and Trypanosomiases. By A. Laveran and F. Mesnil. Translated and much enlarged by David Nabarro, M.D., B.Sc. Lond. With coloured plate and 81 figures in the text. London: Baillière, Tindall, and Cox. 1907. Pp. 538. Price 21s. net.

THE LANCET.

LONDON: SATURDAY, MAY 2, 1908.

Dirty and Tuberculous Milk for London.

Although we are gradually making progress in the control of that great article of diet which we all consume in health and in disease, and which we give with such faith in its good qualities to the infants who are still born to us, we much doubt if the general public has any appreciation of the conditions in which a good deal of the milk that it consumes is drawn. Most medical officers of health are familiar with these conditions and are found lamenting them in their annual reports, but we question whether all medical officers of health, more particularly the part-time officers, have the knowledge of dairy farming to enable them to advise as to the proper precautions which should be taken. It is not improbable that at the present time the greatest stimulus to a better state of affairs is being exercised by the larger milk companies which, knowing the risks that they now incur by the supply of a specifically infected milk, are taking care by means of their contracts with the milk farmer and by the agency of inspectors in their own employ to protect themselves against the cruder forms of pollution. Evidence of this influence may be detected in rural districts around London, where for the most part the district councils have the meanest conception of their duties and where any official reform which takes place is due entirely to the efforts of the local medical officers of health and sanitary inspectors. For some years past Dr. William Collingridge has had samples of milk collected on arrival at Liverpool-street Station from the counties of Essex, Suffolk, and Norfolk—from, that is to say, the district which is more particularly known as East Anglia. These samples have been examined by Dr. E. Klein with reference both to their cleanliness and to their tubercle-conveying power, this latter attribute being ascertained by injection of the milk into guinea-pigs. The total number of the samples examined during 1907, 24, is small and therefore the percentages have but a limited value. With this reservation there is but small comfort to be derived from the fact that 54·2 per cent. were fairly clean, 8·3 per cent. tuberculous, and 37·5 per cent. dirty and unsatisfactory. It has, too, to be added that these results seem to agree generally with those obtained during the previous three years, and more particularly is this true of the tuberculous milk, the percentages for which varied from 7·7 to 9·1. Dr. Collingridge furnishes illustrative notes relative to the condition of certain of the cowsheds and he thinks that these notes indicate that at the sources little care is exercised to safeguard the milk-supply, the farmer in the majority of instances taking practically no precautions until he is compelled to do so by some such investigation as is here referred to. Dr. Collingridge considers, however, that there is no real difficulty in getting proper precautions carried out by the local authorities and he sees no necessity for any central authority (presumably the London County Council in this instance) to waste time and money in inspecting farms in the country. We are afraid that he is perhaps a little too optimistic with reference to rural district councils the *personnel* of which is largely made up of farmers. In our view these district councils have done but little except under very great pressure and, as we have said, the improvements made have been largely effected by the milk buyers from London. Our experience of rural district councils in the matter of milk leads us to the conclusion that probably the best solution of the problem is to hand over the control of cowhouses, and so on, to the county councils.

But we are entirely at one with Dr. Collingridge as to the need of further control not only in the condition of the cowsheds but also in that of the cows themselves, in the cleanliness of the milk vessels, and in the matters of transit, of cooling, and of mixing. In our opinion the general cleanliness of cowsheds has materially improved during the last ten years but there is need particularly for more light and ventilation. The average cowkeeper has a distinct bias against light, either because he thinks that it is detrimental to the secretion of milk or less probably because it shows up filth both in the cowhouse and on the udders of the cows. This question of the cleanliness of the cows does not, as a rule, receive sufficient attention, nor does that of the cleanliness of the milkers themselves. The white overalls so often spoken of are not so frequently seen and it is sometimes difficult to discover the "lavatory" in which the milkers are supposed to wash their hands before milking. Despatch of milk in unlocked or unsealed churns is another weak spot in our precautions with regard to milk-supply, and the belief, or excuse, of the farmer that the railway companies refuse locked churns has no basis in fact, although the companies reserve to themselves the right to open locked cans in cases where they suspect that the quantity of the milk is in excess of the declared amounts. Even this may be obviated by marking on the churns their weight when empty. All churns should be locked or sealed and an increasing number of such receptacles seen at railway stations are either fastened with padlocks or sealed with leaden seals. Better provision should be made for securing the scalding by steam of empty milk churns and all mixing of milk at railway stations should be prohibited. This mixing not only involves exposure of the milk but also the use of a "rouser" or mixer, which instrument may at times be found resting upon a dirty platform. Moreover, this mixing enormously accentuates the difficulty of tracing any infection which may have been introduced into the milk, a historical instance of this difficulty being the famous outbreak of scarlet fever in 1885, which was found to be associated with a particular milk-supply derived from a farm at Hendon and which led to Mr. W. H. Power's memorable report. The cowkeeper and the dairyman should make their peace with Mr. Burns at once, for soon he will be within their gates and once there he will be difficult to eject.

to shift for themselves, is true or nearly so throughout the whole lives of women and materially modifies both their standards of right and wrong and their attitude towards the rest of mankind. As a sixpence can be so held as to shut out the view of the sun, so a child, even when grown to maturity, is often an effective screen against considerations which would otherwise be of overwhelming importance or intensity. The great lady who urges the appointment of ALGY or REGGIE to some important military command is not so destitute of imagination as to be unable to picture to herself the disasters which may be caused by his inefficiency; nor is she, as a rule, so stupid as to be under any delusion with regard to his fitness for the function which she exerts herself to secure for him; but he is *her* ALGY or *her* REGGIE, and she therefore desires that he should be placed in a distinguished position, while she trusts to luck and the chapter of accidents to preserve him from disastrous eclipse. His father, in a general way, would be likely to take an entirely different view of the position and its requirements. In the absence of children an anomalous deflection of the female mental vision is sometimes produced by sexual affinities or attractions. There have been few more clear-headed women in history than QUEEN ELIZABETH, but her fondness for LEICESTER occasioned her to shut her eyes to his most disastrous blunders, and only just escaped being the cause of defeat to the United Provinces in their struggle against Spain. There have, of course, been historical examples of evil feminine influences habitually exerted upon otherwise sagacious and far-seeing men, but such examples are comparatively few and the influence when it has been exerted has in most of them been comparatively short-lived. Conditions and circumstances which completely dominate the lives of many women are, as a rule, little more than episodes in the life of man.

Dr. SHAW's observations about what is called "thinking" are eminently worthy of attention and appear to us to deserve a far more prominent place in his discourse than that which has been assigned to them. They strike at the very root of a prevailing popular delusion. He quotes WUNDT as declaring that "people think very little and very seldom," and we entertain no doubt that the common belief to the contrary is mainly due to popular ignorance of the nature of intellectual operations. Assuming them, as they probably are, to be the mere exercise of the special endowments of certain groups of nerve cells, as sensations are the exercise of the special endowments of other groups, it is not difficult to perceive in how large a proportion of cases they are purely reflex phenomena in response to some accustomed stimulus and how soon the habit of responding in some particular way supersedes any original capacity for judging and comparing. At an early period of life the force underlying nervous action may be, and must be, guided, but it soon finds its way into accustomed channels; and the brain of the average "man in the street," when of middle age, is frequently incapable of receiving or of assimilating new ideas. His religion, his politics, his views upon social questions, all tend to become stereotyped, and nothing is more difficult to him than to approach the underlying problems from any new point of view. As time goes on the cell groups which minister to the higher faculties of the mind appear to become atrophied from disuse, and the reconsideration of questions, which has long been difficult, ultimately becomes impossible. We have often thought that the consequent decay of any real power of thinking is an adequate explanation of an immense deal of the early mortality of prosperous middle life. The man of business, the banker or the merchant, learns all about his daily calling by the time when he is 40 and is often content to live in the mere practice, as a matter of habit, of what he has thus acquired. He eats and drinks too much and the higher brain centres waste for want of exercise. He is said to die from gout, or from heart disease, or from kidney disease, but he really dies from stupidity and because there is nothing left to keep him alive. It is highly instructive to compare such examples with those of longevity in men of high intelligence, and we believe it will be found, as a rule, that the latter are furnished chiefly by the callings which require the continued exercise of the intellectual faculties upon comparatively new matter, or upon new combinations of familiar data. Great mathematicians have been proverbially long lived; great judges almost equally so; and it is even probable that something of the same kind might be said for eminent journalists who are constantly called upon to apply their minds to the varying circumstances of the day. We believe that *no* educational acquirement would be of greater value than that which should give the power of restraining the thoughts from perpetual movement along reflex grooves, and should compel them, day after day, if only for some brief season, to consider the foundations of accepted beliefs and the validity of the arguments which might be urged either in defence or in disproof of them. In existing circumstances, the expanse of "gentle dulness" which offers itself to an impartial observer of mankind is not calculated to inspire him with high hopes for either his country or his race.

Annotations.

"Ne quid nimis."

THE HEALTH AUTHORITIES AND THE UNEMPLOYED IN CHICAGO.

COMBINING charitable assistance with the efforts of the local county and municipal authorities a systematic attempt was made to cope with the exceptional distress prevalent during the winter at Chicago. One of the railway companies lent a large brick building and some other premises were available. All new comers, however, spent their first night at the municipal lodging-house where the details concerning their difficulties were properly registered, their clothes fumigated, and their persons bathed. Then they were sent to other institutions for food and lodging. Care was taken not to humiliate these men and they were called upon to work one day out of three and thus to earn the hospitality which they received. The other two days they were to spend in the endeavour to find remunerative employment. The Department of Health instituted an inquiry in view of giving the men relieved all the food which they needed without incurring any unnecessary expense. Thus, the report of the results issued states that while boiled spring chicken gave in gramme calories of food value only 505 units per pound, boiled beef gave 1620 units and bread 1205 gramme calories per pound. The rations given in different obvious cause must be regarded as the subject of trypanosomiasis until the contrary is proved. The gradual onset and development of sleeping sickness are liable to mislead those unskilled in the diagnosis of the disease. The Commissioners in Uganda found, however, that it is possible to divide the course of the ailment into three stages. 1. The stage of fever, during which there are a subtle change of intelligence, febrile symptoms of a hectic type, an accelerated pulse of low tension, and the presence of trypanosomes in the spinal fluid. 2. The stage of tremors. The intelligence becomes more dull, the face puffy, the gait shuffling and uncertain, the speech slow, and the voice high-pitched, and there is a marked tremor of the tongue, the hands, and often of the lips and the legs. During this stage the temperature oscillates. 3. The stage of subnormal temperature and profound lethargy. Inflammatory affections of the respiratory tract are common and secondary bacterial complications are found post mortem, such as purulent meningitis and widespread suppuration of the lymphatic glands; these apparently determine the fatal issue in many cases of sleeping sickness. The duration of the illness is seldom longer than 18 months. The first drug to which value could be assigned in the treatment of sleeping sickness was arsenic and a still further advance was made by the exhibition of trypan-red and afterwards of atoxyl. Treatment by serum, extracts of spleen, injections of cultures of organisms, and the exposure to x rays and other rays have met with little or no success. Curiously enough, benefit, or even the disappearance of the trypanosomes from the blood, occurs by the exhibition of most of the drugs employed. Antimony has been quite recently advocated as a remedy and but for the difficulty of administration it would appear that this drug possesses the power of at least causing the disappearance of trypanosomes. There seems little hope of obtaining a preparation of antimony that can be safely and effectively administered. If given internally it brings on vomiting; by the skin a pustular eruption; and by the hypodermic or intramuscular methods necrosis of the tissues. There is no doubt, however, that a few cases of sleeping sickness may be said to have been "cured" by atoxyl, inasmuch as the patients to whom it has been given are alive and well three years after the disease first showed itself. The trypanosomes of birds, reptiles, batrachians, and fishes are dealt with in Chapters XIV. to XVII., and a great deal of the information in these chapters is added by Dr. NABARRO. The last chapter is concerned with the tsetse flies and their trypanosomes and a coloured plate at the end of the volume shows clearly most of the varieties of trypanosomes at present known.

◆

"The Special Psychology of Women."

THERE is at least this point of resemblance between the man of science and the traditional *sapeur*, that few things are sacred to either. In our columns to-day will be found a lecture, under the above heading, by Dr. T. CLAYE SHAW, in which that very competent authority, greatly daring, addresses himself to a deliberate comparison between the two sexes of which the human race, in common with others, is composed; and arrives, on the basis of such a comparison, at conclusions bearing upon the rightfulness of woman's claim to the electoral franchise. Our admiration of Dr. SHAW's courage is not diminished by the circumstance that his inquiries have led him to take what the ladies who are in sympathy with the current agitation will regard as the right side in the controversy, because the very fact of his doing so on stated grounds implies a definite claim to form an independent opinion and indicates that his decision might have been an adverse one if the data on which it is founded had been different. The suffrage-seeking sisterhood are able to regard with compassion, or, it may be, with contempt, any arguments hostile to their claims which are based upon grounds of political expediency or of social or domestic convenience, because all such are essentially unstable in their character and are liable, or even likely, to be modified greatly by the operations of time and circumstance. The ladies placidly assign the excellence of their education and the amount of their wealth as conditions which entitle them to vote, without reflecting that the privileges of the franchise-possessing males are absolutely independent alike of property and of intelligence. The fact that such an argument is a *non sequitur*, with no bearing upon the question at issue, renders it as irrelevant to one side of the dispute as to the other, and prevents it from being turned with effect against those who use it. But if science, resting either upon physiological data or upon that comfortable word "psychology," had ventured to pronounce an adverse decision, had declared that the sentence "No votes for women" was somewhere, to use the language of PROCHASKA, "written upon the nervous pulp," or that the play of feminine emotions was essentially incompatible with the correct filling up of a voting paper, why, then, we should indeed have been sorry for science, and still more sorry for those who were called upon to give publicity to her conclusions. In some poultry-breeding districts, when a chicken-destroying kite has been caught alive it has been customary to clip its wings, to cut its claws, to stick a cork upon the point of its bill, and then to cast it down among the hens! Imagination shudders at the possible fate of an anti-female-franchise philosopher in like manner surrendered to the vengeance of those whom his pronouncements had converted into enemies.

Our readers will observe, however, that the question of a female franchise occupies only a subordinate place in Dr. SHAW's interesting summary of the essential points of resemblance and of dissimilarity offered to our observation by the two sexes, and that a general view of the whole question leads him to a conclusion which may perhaps be expressed by saying that the resemblances are inherent and absolute, while the differences are artificial or accidental. We are not quite sure of the entire correctness of this view of the case, because it is obvious that maternity is an essentially feminine function; and we regard the most marked and characteristic differences between the sexes as being mainly attributable to its requirements. It may be said of the female animal generally that, when she has young, she does not care whose dinner she takes with which to feed them, and this statement, while it ceases to apply to the lower animals as soon as the young have become able ago there were three, one for each hospital, but the death of Miss M. E. Hayes, M.B., who fell at her post in January of this year, has left but two and these are feeling the severe strain of overwork and responsibility in an Eastern climate. For full particulars, however, of work, salary, the position occupied by the hospitals in question, and other matters as to which detailed information will, no doubt, be desired, reference must be made to the Secretary, Women's Work, S.P.G. House, Tufton-street, Westminster.

LOCALISATION OF FUNCTION IN THE LEMUR'S BRAIN.

At a recent meeting of the Royal Society Dr. F. W. Mott and Professor W. D. Halliburton communicated a paper on the localisation of function in the brain of the lemur which was of distinct interest to medical men. The lemur is the lowest of the ape-like animals and its brain has received hitherto very little attention. The ring-tailed lemur of Madagascar (Lemur catta) was chiefly employed but in two experiments the black lemur (Lemur macaco) was used. The results obtained did not show any material differences between the two species. The investigation dealt mainly with the motor centres and the usual methods of stimulation and extirpation were adopted. In an animal so low in the scale extirpation is more decisive for the purpose of localisation, but in these experiments the results of extirpation have confirmed those obtained by means of stimulation. The course of the degeneration tracts resulting from extirpation was followed by histological examination of the brain and spinal cord. The results agreed remarkably with those obtained by a study of the histological structure of the various regions of the cerebral cortex. Professor Halliburton was responsible for the experimental part of the investigation and Dr. Mott for the histological portion. In all the stimulation experiments the animals were anæsthetised with ether and the anæsthesia was maintained until at the end of the experiment the animal was killed by an overdose of chloroform. The convolution pattern of the lemur's brain is simple; the fissure of Sylvius was easily recognisable but it was not found possible to identify the fissure of Rolando. The precise posterior boundary of the excitable cortex was very difficult to determine with accuracy and it varied in different animals. It is noteworthy that the large motor cells become more and more scattered from before backwards. The trunk and more posteriorly the leg areas are uppermost and extend on to the mesial surface as far as the intercalary fissure. Below this and in front are the various head and face areas. The areas controlling the upper limb are posterior to, and somewhat higher than, these. These excitation experiments show that in the lemurs, as in the primates, there exist three areas, related to the lower limb, upper limb, and head region respectively, from above downwards, in inverse order therefore to the spinal arrangement. The hand and finger area is large in the lemur but this is not remarkable in view of its habits. It does not pick up its food with its hands as a monkey does but it uses its hands to support the morsel which it has picked up with its mouth. The hand movements are, however, undoubtedly more highly developed than in quadrupeds and come chiefly into play in climbing. There is a well-formed and opposable thumb which must be very useful in the arboreal life of the animal. No special thumb area, however, could be found in the cortex. Repeated attempts to evoke eye movements from the occipital pole led to entirely negative results. It is quite certain that this area is, as in other animals, the visual area, for histologically it was found to possess a well-marked line of Gennari. The motor areas were characterised histologically by the presence of Betz cells; localisation by histological study was therefore possible and the results corresponded closely with those obtained experimentally. Two types of motor cortex were found in the lemur's brain. The large type of Betz cell was found in the greater part of the motor cortex, particularly where limb and body movements were represented. The smaller type of Betz cell was found in the area governing face, tongue, ear, and eye movements, and in this excitable region there is a layer of granules; it is therefore probably sensori-motor. The extirpation experiments were performed under ether anæsthesia and with strict antiseptic precautions. Healing took place by the first intention in all cases. The paralysis exhibited after the operation was on the opposite side of the body; it was not pronounced in any experiment and soon passed off. This transitory paralysis has been frequently noticed before, especially in animals low in the scale. The animals were finally killed by chloroform about a fortnight after the operation. It was then found that there had occurred degeneration of the tracts which pass to the bulbar or spinal grey matter which controls these movements. Degeneration also occurred in commissural and association tracts in the cerebrum. The expenses of the research were in part defrayed in grants from the Government Grant Committee of the Royal Society and by the Science Committee of the British Medical Association.

THE STANDARDISATION OF DISINFECTANTS.

At the London School of Tropical Medicine, on April 2nd, Sir Patrick Manson presided at a lecture and demonstration given by Dr. Samuel Rideal upon the Rideal-Walker method of testing and standardising disinfectants. The method is well known to those of our readers who are specially interested in matters of hygiene as it has been before the profession since 1903. We need only say that it consists in preparing different dilutions of the disinfectant to be tested and inoculating them in succession with five drops of a 24-hours' blood-heat culture of a given organism (bacillus typhosus is suggested for standardising purposes) and then taking from each subcultures every two and a half minutes up to 15 minutes. The same process of subculturing is repeated with a 1 per cent. carbolic acid solution. The dilution is noted at which the disinfectant under examination gives the same results for the series as the carbolic control and the lowest dilutions of these two chemical agents which kill the bacteria in equal times stand to each other in the ratio which gives direct numerical expression to their relative germicidal value. For example, if it is found that no growth occurs in subcultures taken from the 1 in 100 carbolic acid solution seven and a half minutes after its inoculation with the organisms, but that five minutes have not sufficed to kill them, and that a dilution of 1 in 1400 of a disinfectant *x* gives the same result, then the Rideal-Walker value of that coefficient is $\frac{1400}{100} = 14 \cdot 0$. The technique is simple and the use of a standard carbolic solution and a standard broth culture minimises the personal equation. In practice, organic matter is added to the solutions in the form of gelatin and starch granules to simulate the conditions of practical disinfection. The authors claim that this method of the carbolic acid coefficient meets in a practical and universal manner the long-felt need of a standard of efficiency on which to base legislation controlling the manufacture and sale of disinfectants. The demonstration was well attended and at its close Dr. David Sommerville, Professor R. Tanner Hewlett, and Dr. Schryver spoke in support of the method. In connexion with this subject we may note that in the House of Commons on April 14th Mr. J. D. Rees asked Sir Edward Strachey, as representing the Board of Agriculture, "whether the Board had made an order to the effect that armies to soldiers in the field were studied, together with the diet of artisans or mechanics while at work. The records of the German Empire are pronounced to have supplied the fairest average. From these investigations it was concluded that a man who was not working required 1800 calories and when in work 3200 calories per day. Therefore the bill of fare was contrived so as to supply, on an average, 3100 calories per day and this was considered enough for men who only worked for six hours every three days. For this they were given bread, butter, coffee, sugar, and molasses for breakfast; bread, coffee, sugar, and a meat stew with vegetables for dinner; bread, coffee, sugar, and a beef or mutton soup thickened with split peas, barley, rice, or beans, turnips, onions, and carrots for supper. Examination of the men as they took their baths showed that 79 per cent. were in normal physical condition, 17 per cent. were overfed, and 4 per cent. only were underfed. The number of unemployed receiving what is described as "emergency lodging-house attendance" during the three months January, February, and March last amounted to 68,328. The Chicago Department of Health states that this experiment has very materially helped to protect the city from contagion, for it has kept the homeless clean, healthy, and free from physical suffering. The inquiries made resulted in forcing out of Chicago some "unworthy, idle, and drifting criminals." On the other hand, some "innately honest but weak men were shielded from being driven into crime." Then it was practically shown that health and strength can be maintained on food that does not cost more than *4d.* per day. It was also demonstrated that lodging-houses can be kept clean, well ventilated, and not overcrowded, giving a bath and sufficient heat, and yield a good profit for less than *5d.* per day per bed. Perhaps, however, the greatest advantage of this method of dealing with the unemployed is that it did not tend to degrade them and to push them down further in the social scale but, on the contrary, gave them ample time to seek for work and to regain their independence.

THE ANTIQUITY OF THE COFFIN.

The shapes of familiar objects of human manufacture do not as a rule excite our curiosity. The box-like form of a coffin, for instance, suggests nothing. Even an undertaker has no views on the *raison d'être* of coffins save that they conduce to decency. Yet on grounds of propriety many nations, such as the ancient Romans and the Hindoos, have preferred cremation to interment, since the latter involves the disfigurement and gradual decay of the dead. Coffins, indeed, are not explainable on grounds of hygiene or seemliness, for which primitive men cared very little. Rather must we see in the modern wooden coffin a copy of the prehistoric stone or chalk receptacle which was a conventional reproduction of one of two things—the mummy cases familiar to students of Egyptology, or the dolmen (or stone house) in which prehistoric non-Aryan races, especially round the Mediterranean from Egypt westwards, were in the habit of burying their dead. Coffins were, as Lord Avebury points out in his "Prehistoric Times," apparently unknown to very ancient man. The dead were buried in a sitting posture or in the attitude of sleep in what were regarded as a kind of ghost houses. The most elaborate and fully differentiated of these houses of the dead are, as Professor Sergi maintains, the pyramids with their mummies and various precautions against the decay of the body. A less elaborate differentiation of the house idea is to be found in the dolmens still remaining all the world over from India to Great Britain. A dolmen, built of five slabs of stone, covered by a tumulus, crowned by a menhir, surrounded by a stone circle as at Stonehenge and Avebury, and led up to by an avenue of standing stones, is, in fact, a rude adumbration of the pyramid. Inside the dolmen the dead sat crouched among cooking utensils, arms, and so forth, put there for their use in the spirit world. Is it too much to suppose that the earliest stone coffins were imitations of the dolmens—in fact, dolmens in miniature? Whether this be so or not, it is very probable that our old-fashioned standing tombstones, and especially our table tombs (which are five-sided), as well as the family vaults of great families with their traditions of embalmment and their leaden shell coffins, which conventionally outline the shapes of the dead within, are so many relics of the remote epoch when a tomb was conceived of as a house in which the dead continued to live their former lives. The leaden shell coffins just mentioned may indeed have originated the modern coffin. The latter has still, for no apparently sufficient reason, to be constructed in accordance with careful measurements and in conventional imitation of the human shape. The leaden shell in the family vault sometimes goes so far as conventionally to preserve the outline of the fingers of the corpse, and this fact would seem to point back to a time when corpses were not coffined. Thus the shell, and afterwards the coffin or elaborated shell, might be regarded as interpolations in the dolmen scheme of burial.

THE DELHI MEDICAL MISSION.

A medical woman desirous of finding an unlimited field for the practice of her profession among members of her own sex, not anxious for material reward, but capable of infinite self-sacrifice, will find a welcome and full scope for all her energies by offering herself at the present time to the Delhi Medical Mission as a member of its staff. Her medical work, should she be accepted, will be performed among native women of India in the neighbourhood of one of the three towns Delhi, Karnal, and Rewari, where the mission has its hospitals, and it will be work done with a view to lighten the burden of physical suffering among women and girls whose fate it is, if unaided, to suffer in a manner undreamt of in this country and almost unrealisable by those who have no acquaintance with the underside of Indian life. In addition to her medical qualifications and to her physical fitness for the life which she will have to live, it will be required of her, as one of the staff of the mission, that she should be a member of the Church of England, ready to feel and to express sympathy with the spiritual as well as with the physical needs of those around her. As a matter of fact, not one but two or three such medical practitioners are required, and of the amount of medical work to be done there would appear to be no limit except that imposed by the physical capabilities of those who have to do it. It includes the treatment of in-patients to the amount of hundreds during the year and of out-patients extending to thousands at the three hospitals, with a still larger number of cases treated outside. These last, it must be remembered, are to be visited in the slums of cities where (to quote from a report of the Karnal Hospital's work) "from long custom it has become a prerogative of the poor and low caste to claim the clothes and even the bed in which their higher class neighbours die. In addition to being infected they are usually in an incredibly filthy condition." This, however, is but an illustration taken at random of the nature of the work, full particulars of which would naturally be obtained first by a lady desirous of embarking upon it, an undertaking not to be entered into lightly. Any such should make early application for information because the need for her services is urgent and she herself would require a short period of preparation as a matter of necessity before being placed in one of the positions now waiting to be occupied. Of the centres named Karnal is situated 70 miles and Rewari 50 miles from Delhi, and in order to allow for necessary leave of absence and to prevent overstrain there should be a full staff of at least five fully qualified medical practitioners. Until a short time process of slow rarefaction. Mikulicz and Henle think that there is produced a hæmatoma, intra- or extra-dural, which compresses the roots and ganglia of the spinal nerves, causing trophic changes which terminate in a kind of vertebral osteomalacia. In 1893 Pierre Marie and Léri made a necropsy in a case of traumatic kyphosis. Almost the whole of the lesions were found between the sixth and twelfth dorsal vertebræ; they consisted in projecting ossification of most of the ligaments, particularly of the common anterior ligament. There were also irregular and incomplete ossification of some of the elastic ligaments and a tendency to union of the spinous processes by ossification of the interspinous ligaments. The pathogenesis of traumatic kyphosis may be deduced from these findings. The sudden bending of the spine produced by a fall on the back or by the fall of a heavy body on the dorsal region ruptures certain ligaments, particularly the common anterior ligament. Kyphosis may immediately result from rupture of important ligaments. But it is generally produced more slowly. The torn ligaments, no doubt, carry with them fragments of periosteum and are repaired by ossification which determines a curve of the affected region that becomes more and more pronounced.

A WORK OF SUPEREROGATION.

THE *Daily News* of April 22nd is responsible for a story from Woolsthorpe in Lincolnshire to the effect that Dr. J. A. Macdonald, the district public vaccinator, has been compelled "to carry a coffin to the grave containing the corpse of an old man who had died from small-pox, all the other residents having refused to go near the coffin." It seems probable that this unpleasant episode has been exaggerated in the telling, for one man could scarcely carry an adult corpse in a coffin unaided from house to grave, and if the devoted public vaccinator wheeled it on a barrow it is not accurate to say that he carried it. However, it seems probable that Dr. Macdonald played a part of conspicuous charity amongst a company of poltroons and he was rewarded in a manner well worthy of the great heart of his neighbourhood. The Grantham board of guardians has appointed another medical man as deputy public vaccinator for Woolsthorpe, "as many people desired to be revaccinated, but were afraid to go near Dr. Macdonald owing to their fear of infection." If the facts of the case have been stated accurately Dr. Macdonald has our sincere admiration for having performed an act which many men even with a keen sense of duty would have refused to carry out, and we can only hope that some reforming spirit may arise in the happily named village of Woolsthorpe who will make the members of that panic-stricken community thoroughly well ashamed of themselves and testify the same by recompensing Dr. Macdonald against any loss of income which his act of devotion may have occasioned him.

MILLON'S REAGENT AS A TEST FOR PUS.

Millon's reagent has been employed as a simple means of differentiating between pus of tuberculous origin and that resulting from the activity of pyogenic organisms by Dr. Eduard Müller.[1] The method recommended is to fill a small deep porcelain dish nearly to the brim with the reagent and to allow a drop of the pus to be tested to fall into the middle of the fluid. If the pus is of tuberculous origin it coagulates to form a firm film, whereas if it is of ordinary character it forms a less tenacious disc. The former can be lifted out on a platinum loop with ease, whereas the latter breaks up into fragments when it is touched by the loop. If the membrane formed by the drop of tuberculous pus be pushed down into the fluid by the loop it takes on a shape like a pea or bean. A further distinction becomes apparent after a quarter of an hour when ordinary pus causes a distinct red staining of the Millon's reagent, while with pus of tuberculous origin the fluid remains quite unstained. The drop of pus becomes red in colour in both cases. The explanation offered of the different results obtained is that the puriform matter from from tuberculous lesions is rich in protein substances which are coagulated by Millon's reagent, whereas with ordinary pus the proteolytic ferment of leucocytic origin converts a considerable proportion of the protein into simpler disintegration products which do not coagulate but which become diffused into the fluid and yield the red colour owing to the presence of aromatic radicles in their molecules. Dr. Lothar Dreyer[2] of Breslau has applied this test in a number of cases with a view to determine its value for surgical purposes in diagnosis. He employed it in 41 cases of ordinary pus and in 32 cases of tuberculous nature, controlling his results in every instance by bacteriological examination. The pus in the first group was produced by such organisms as staphylococci, streptococci, pneumococci, and bacillus coli. In all cases where the pus contained only tubercle bacilli the typical appearances described by Müller were obtained. With ordinary pus the friable disc described was obtained instead but Dr. Dreyer did not always observe the red staining of the fluid. In one instance only did the test leave him in doubt, where the pus from a case of osteomyelitis of the pelvis, which was of very viscid, thick character, gave a result more like the consistence of tuberculous pus. He also found subsequently that pus from a case of mixed infection with tubercle bacilli and pyogenic organisms gave a reaction corresponding to the latter. He is of opinion that the reaction is of considerable value from the little time which it requires and the ease with which it can be carried out. It would appear from Dr. Dreyer's results that the appearance of a thick tenacious film as a result of the test is a strong presumption in favour of the tuberculous origin of the pus, whereas the more friable membrane, although showing the presence of pyogenic organisms, does not exclude the presence of tubercle bacilli.

BOMBAY MEDICAL CONGRESS.

A PRELIMINARY meeting in furtherance of the Medical Congress which it is proposed to hold in Bombay early next year was held at Government House on March 25th under the auspices of the Governor of the Presidency, Sir George Clarke, to whom the credit of initiating the project is due. It was resolved that the following gentlemen, who were all present at the meeting, should form the nucleus of a central committee, which should comprise representatives of all branches of the medical profession in the Bombay Presidency, official and non-official: Colonel R. H. Forman, R.A.M.C., Principal Medical Officer, Bombay; Lieutenant-Colonel C. J. Bamber, I.M.S., Sanitary Commissioner; Lieutenant-Colonel M. Collie, I.M.S., Lieutenant Colonel C. H. L. Meyer, I.M.S.; Lieutenant-Colonel W. E. Jennings, I.M.S.; Major H. E. Winter, R.A.M.C.; Captain W. G. Liston, I.M.S.; Sir Bhalchandra Krishna; Dr. J. A. Turner, Dr. Coghill, Dr. S. A. Powell, and Dr Choksy. The duties of honorary secretary were undertaken by Lieutenant-Colonel Jennings and it was decided that the members of the Governor's council, the surgeon-general with the Government of Bombay, the principal medical officer, Poona Division, and some other distinguished people should be invited to act as vice-presidents of the Congress under the presidency of Sir George Clarke who had consented to accept the post. It was also decided that the drawing up of a definite programme should be entrusted to the central committee which should be asked to give special prominence to sections dealing with the etiology and prophylaxis of tropical diseases, as well as with disinfectants, weed killers, and the like preparations were drugs within the meaning of the Sale of Food and Drugs Act, and whether it was proposed that such disinfectants, weed killers, &c., if sold by others than registered pharmacists, should have a label attached declaring their efficiency in terms of certain recognised standard tests." Sir Edward Strachey in a written answer replied: "The answer to the first part of the question is in the negative. The conditions under which the articles to which my honourable friend refers should be sold are under consideration by a joint committee appointed in connexion with the *Poisons and Pharmacy Bill.*" We believe that general opinion in the medical profession is beginning to hold that there should be some standard of efficiency in disinfectants. For instance, the Central Midwives Board in the regulations issued to midwives[1] lays down that the midwife must take with her to a confinement, amongst other things, "an efficient antiseptic for disinfecting the hands, &c." How is the efficiency in such a case to be measured? and how is the midwife to be sure that she buys "an efficient" antiseptic?

---

[1] Zentralblatt für Innere Medizin, No. 12.

[2] Münchener Medizinische Wochenscrift, April 7th, 1903, p. 723.

CLASS MORTALITY STATISTICS.

IT is now more than 20 years since Dr. Grimshaw, late Registrar-General for Ireland, began to publish class mortality statistics for the city of Dublin, and in the returns issued by his successor, Dr. Robert E. Matheson, they have been maintained with but slight alteration of form. Having regard to the undoubted influence of class proportion on the rate of mortality in a population, this commendable attempt to throw light on the important but difficult problem of class mortality has scarcely received the attention which it deserves. The tables dealing with this subject in the Yearly Summary of the Irish Weekly Returns for 1907 are valuable and interesting, although the lesson which they teach is no longer new. Dr. Grimshaw, for the purposes of his tables, divided the Dublin population into four classes: (1) professional and independent class; (2) the middle class; (3) artisan class and petty shopkeepers; and (4) general service class. It is obvious that this division into classes must be more or less of an arbitrary character, but the value of the resulting statistics is scarcely thereby affected if the classification of the population and of the deaths is as nearly as possible identical. The Dublin population enumerated in 1901, so divided, included 17,436 of the first class, 87,188 of the second, 110,423 of the third, and 160,303 of the fourth class; the fourth, or general service class, including about 6000 inmates of workhouses. The tables for 1907 show that while the rate of mortality last year did not exceed 16·2 and 17·0 per 1000 respectively in the professional and independent and in the middle class, it was no less than 28·4 per 1000 in the combined classes including artisans, petty shopkeepers, and the general service class. The contrast between the rates of mortality from the principal epidemic diseases was still greater; among the professional, independent, and middle classes the death-rate from these diseases in Dublin during last year did not exceed 0·9 per 1000, whereas it was equal to 2·3 per 1000, or nearly three times as high, among artisans, petty shopkeepers, and the general service class. The bulk of the fatal cases of measles, whooping-cough, and diarrhœa and all the eight deaths from typhus fever occurred in the general service class. From these facts it may safely be presumed that the contrast between the rates of infantile mortality in these class subdivisions would be still more striking, but the Irish summary under notice does not afford the means for calculating class birth-rates or of true class infantile mortality. It appears, however, that whereas the rate of child mortality last year under five years of age did not exceed 37 per 1000 among the professional, independent, and middle classes, it was equal to 89 per 1000 among artisans, petty shopkeepers, and the general service class. While these Irish class mortality statistics are still interesting, as an experiment, it is matter for regret that no attempt has been made to correct these crude rates of class mortality for the widely differing age-constitution of the various class populations, the omission of which affects the value of these crude death-rates for purposes of comparison. These statistics, however, although uncorrected show the necessity for bearing in mind the varying class proportions of different populations when comparing their rates of mortality.

THE DISTRIBUTION OF RAINFALL IN THE BRITISH ISLES.

ALTHOUGH the fickleness of the weather is proverbial, it has long been known that the average rainfall of a country or a locality is to some extent dependent on its geographical position and surface configuration. This sufficiently accounts for the fact that during January and February several lectures on this subject were delivered before the Royal Geographical Society by Dr. H. R. Mill, D.Sc., with special reference to the British Isles, and abstracts of each of these discourses are published in the April number of *Symons's Meteorological Magazine.* Christopher Wren designed in 1662 the earliest rain gauge which has been described, but systematic records of the distribution of rain over the British Isles only commenced in 1860 when the late Mr. G. J. Symons initiated the British Rainfall Organisation and in 1861 published 507 records for the year. The work of this organisation is still carried on in Mr. Symons's former residence, 62, Camden-square, London, where the records collected at 4500 stations are now dealt with every year. The form of rain gauge recommended is either the Snowdon pattern, five inches in diameter, or the Meteorological Office pattern, eight inches in diameter (the two differ only in size), set with the receiving surface one foot above the ground. The highest annual rainfall is always in the neighbourhood of the highest land while the lowest is always on the level plains. The Highlands of Scotland, the Southern Uplands, the Lake District, the Pennine Chain, Wales, the western part of Cornwall and Devon, and the mountains of Ireland all stand out as wet areas, and even the gentle hills of the Eastern Division of England are wetter than the surrounding plains.

TRAUMATIC KYPHOSIS.

AT a meeting of the Société Médicale des Hôpitaux of Paris on April 3rd M. Georges Guillain and M. Guy Laroche reported a case of kyphosis due to a very unusual cause—traumatism. A man, aged 56 years, came under observation with the following history. At the age of 15 years he was well formed and free from any deformity; while going down stairs he slipped and fell on his back. He was taken up and put to bed where he remained for some weeks. Two months after the accident kyphosis began to develop and increased during a year, after which it remained stationary. After the fall the patient felt pains in the spine and subsequently he felt them in damp weather. The deformity did not prevent him from engaging in several occupations—publican, labourer, and hospital attendant. On examination marked kyphosis was seen in the cervico-dorsal region; the culminating point was about the fifth or sixth dorsal vertebra. There was also scoliosis with the convexity to the right and at the back the thorax projected more on the right than on the left side. In front the chest was bulged out and on the left side was in a plane anterior to the right. Different hypotheses have been advanced to explain traumatic kyphosis. Kümmell suggests that some slight attrition of the bodies of the vertebræ is produced and that their nutrition is altered, which causes a errors and to yield an incorrect diagnosis. In normal cases the desmoid reaction occurs in from five and a half to seven and a half hours. When the reaction is retarded or negative it indicates a deficiency of hydrochloric acid or of peptic secretion, or derangements connected with evacuation—e.g., stenosis. When the reaction occurs only after some days pyloric stenosis is indicated. The desmoid test is not absolute but it is capable of rendering great assistance to the physician without causing inconvenience to the patient. It is absolutely innocuous and there are no cases in which it is contra-indicated. In cases of renal or hepatic insufficiency or of derangements of the circulation the rate of elimination of the methylene blue may be affected, thereby introducing possible sources of error, but such cases are not numerous, and when they are met with means can be taken to avoid error.

---

[1] THE LANCET, August 22nd, 1903, p. 555.

PANCREATIC DIVERTICULA OF THE SMALL INTESTINE.

A good example of the manner in which the international exchange of literature assists medical progress is found in connexion with those obscure structures which, for want of a better name, may be called pancreatic diverticula of the small intestine. These rather uncommon diverticula are usually found in connexion with the third stage of the duodenum but may arise from the upper part of the jejunum. At their cæcal end occurs a glandular mass which is distinctly pancreatic in structure. Mr. H. S. Clogg[1] recently reported a case where such a diverticulum, springing from the third stage of the duodenum of a lad, aged 12 years, became a band under which a loop of intestine was strangulated. Another case is recorded by Mr. H. Alexis Thomson[2] and a number of instances are to be found in recent medical papers published in Austria and in Germany. It is well known that the pancreas is developed as twin buds or diverticula of the duodenum, but Dr. F. T. Lewis and Dr. F. W. Thing,[3] working with human and pig embryos, state that it is quite common to find besides the normal diverticula two or three others, springing from the third part of the duodenum or upper part of the jejunum. Apparently during the course of development they disappear. The cases described by Mr. Clogg and Mr. Thomson are evidently examples in which the embryonic pancreatic diverticula have not undergone retrogression. It is difficult to account for their common occurrence in mammalian embryos, for in no vertebrate animal do accessory pancreatic glands persist in the situation where aberrant diverticula are found to occur. The pancreatic diverticula must not be confused with the form of diverticulum originally described by Dr. H. D. Rolleston, which springs from the inner side of the second stage of the duodenum, just above the opening of the common bile duct. This latter form is quite common, especially in the subjects of enteroptosis, and these diverticula are certainly acquired and not congenital structures.

TUBERCULOSIS OF THE GALL-BLADDER.

Some interesting observations on tuberculosis of the gall-bladder are recorded by Dr. M. Simmonds of Hamburg in the *Centralblatt für Allgemeine Pathologie und Pathologische Anatomie* of March 31st. The patient was a boy who died at the age of nine months from acute generalised miliary tuberculosis. The bronchial and mesenteric glands showed caseous lesions, the ileum and large intestine contained a few ulcers, and there were small tuberculous nodules in all the organs. In the liver, in addition to numerous grey miliary tubercles, there were some larger foci. Some of these were firm in consistence and bile-stained centrally, others were softened so as to present only bile-stained débris, while some were simply small bile cysts. The condition was, in fact, a tuberculosis of the small biliary passages. The gall-bladder was of medium size and was filled with bile of normal appearance in which no tubercle bacilli could be detected. Except for six small areas of the size of lentils, with sharply-defined margins, the mucous membrane of the gall-bladder appeared to be healthy. These areas were more deeply tinged with bile than the surrounding tissues. Microscopical examination revealed some central necrosis in these areas and a zone of granulation tissue around them. Although neither tubercles nor giant cells were found the tuberculous nature of these foci was demonstrated by the presence of numerous tubercle bacilli in the granulation tissues and in the boundary zone between it and the necrotic area. Elsewhere the gall-bladder was free from bacilli. Dr. Simmonds concludes from his observations on tuberculosis of the bile ducts in general that this condition is an excretion tuberculosis analogous to the similar processes occurring in the kidney. He explains the affection of the gall-bladder in this case by supposing that this was brought about by bacilli carried to the gall-bladder from the lesions in the bile ducts, just as tuberculous affections of the pelvis of the kidney may be induced by bacilli which are excreted through the urinary tubules. He further states that since investigating this case he has carefully examined the gall-bladder in all cases of tuberculosis of the biliary passages that have come under his notice and found similar conditions. He is therefore of opinion that tuberculous lesions of the gall-bladder are less uncommon than they are generally supposed to be. He was able to find only six instances recorded in German medical literature, and in these the condition was generally a chronic ulcerative cholecystitis, and in four of them it was also accompanied by cholelithiasis.

The Department of Public Health of Queensland in a bulletin dated March 14th states that a male patient, aged 17 years, died in the Brisbane General Hospital on March 6th and a post-mortem examination showed that death was due to the pneumonic form of plague. Another patient, also a male, aged 18 years, whose death occurred on March 11th, presumably due to plague, was also found on post-mortem examination to have died from the pneumonic form of the disease. Another bulletin dated March 21st states that no further case of plague had occurred at Brisbane during the week ending on that date. A telegram from the Governor of Hong-Kong, received at the Colonial Office on April 27th, states that for the week ending April 25th there were 29 cases of plague reported and 26 deaths from the disease.

The President of the Hospital of St. Cross, Rugby, Mr. R. H. Wood, J.P., D.L., has commissioned Mr. Harrison Dutton to paint the portrait of Dr. Clement Dukes, the senior physician, for presentation to the hospital.

Mr. Joseph Edward Godfrey, M.B., C.M. Edin., Surgeon-General, and Chairman of the Local Government Board of British Guiana, has been appointed a Member of the Executive Council of that colony.

His Grace the Duke of Northumberland will preside at the annual dinner of the Royal Sanitary Institute on May 12th at the Langham Hotel.

The Children's Country Holiday Fund.—We are asked to state that the annual meeting of the supporters of the Children's Country Holiday Fund will be held in the Whitehall Rooms, Hôtel Métropole, on Tuesday, May 12th, at 4 P.M. H.R.H. Princess Alexander of Teck has graciously consented to preside, and the speakers will include the Earl of Errol, Lord Edmund Talbot, and Sir Oliver Lodge. The secretary of the fund is Mr. Wilfrid Blakiston and the offices are at 18, Buckingham-street, W.C.

---

[1] The Lancet, Feb. 29th, 1908, p. 639.
[2] The Lancet, March 21st, 1908, p. 850.
[3] American Journal of Anatomy, vol. vii., p. 489, 1908.

general sanitation as applicable to India. It was proposed to invite medical men to contribute original papers but that the central committee should have the power of accepting or rejecting contributions. Members attending the Congress would be at liberty to take part in the discussions, the length of their observations being strictly subservient to a time limit. Exhibitions of microscopical and pathological specimens and also of diagrammatic charts and statistical tables would be arranged for; and if possible upon one evening during the session a lantern exhibition of bacteriological and pathological slides would be held. Sir George Clarke in conclusion expressed his thanks to the meeting and assured them that he would do all he could to promote the success of the undertaking. It was his sincere desire and confident expectation that a large amount of practical good would result from a Medical Congress arranged on the lines that had been indicated.

TYPHOID MENINGITIS WITHOUT OTHER LESIONS.

IN the *University of Pennsylvania Medical Bulletin* for April, Dr. R. S. Lavenson has described a condition which appears to be so far unique—typhoid meningitis without other lesions. A woman, aged 26 years, was admitted into hospital on April 22nd, 1906, with intense frontal headache, fever, vomiting, and photophobia. For some weeks she had assisted in nursing her brother in a severe attack of typhoid fever. Four days before admission she was seized with agonising frontal headache with vomiting, photophobia, and great muscular tenderness. These symptoms persisted until admission, when there had been suppression of urine for 36 hours. On examination the temperature was 103° F., the pulse was 80, and the respirations were 16. The patient was slightly stuporous but not delirious and bore an expression of extreme suffering. The forehead was tender on pressure. There was no rigidity of the neck and the knee-jerks were normal, Kernig's sign was not present, there was no eruption, and the spleen was not enlarged. On the 25th she was slightly delirious and Kernig's sign was present. On the 27th the tâche cérébrale was obtained. On the 30th there was rigidity of the neck. On May 3rd hæmaturia occurred and on the 4th œdema of the lungs developed and the patient died. During the first two days of residence in the hospital the temperature varied between 101° and 103·3°; then until death it remained between 99·3° and 102°, fluctuating without any regularity. The leucocytes were about 20,000. On April 23rd Widal's reaction was negative in dilutions of 1 to 10 and 1 to 50; on the 26th it was positive in the same dilution. On the 27th lumbar puncture was performed and the fluid yielded cultures with all the characteristics of the typhoid bacillus. Cultures were made from the blood but proved negative. Except in the meninges the necropsy was negative; there were no intestinal lesions and the spleen was not enlarged. Over the convexity of the right cerebral hemisphere anterior to the pre-marginal fissure was a collection of thick pus in the pia-arachnoid. The ventricles contained light yellow, slightly turbid fluid. Smears from the pus showed a large number of bacilli with the morphological characters of the typhoid bacillus. The complete localisation of the disease to the meninges was probably responsible for the features unlike those of typhoid fever—the leucocytosis, irregular temperature, and absence of rose spots and splenic enlargement. The absence of the Widal reaction until the eighth day of the disease, the usual time of its occurrence in typhoid fever, is noteworthy. Von Leube says: "The occurrence of first a negative and subsequently a positive Widal reaction is the most reliable response to the test. In such case typhoid fever can be positively diagnosed." Cases of meningitis, with serous or purulent exudation, complicating ordinary typhoid fever have been recorded, but none appear to have been recorded in which intestinal lesions were absent. However, Henry and Rosenberger have reported to the Philadelphia Pathological Society a case of typhoid meningitis without intestinal lesions which has not yet been published.

THE DEPARTMENTAL COMMITTEE ON INEBRIATES.

THE Home Secretary has recently appointed a Departmental Committee with the following terms of reference: "To inquire into the operation of the law relating to inebriates and to their detention in reformatories and retreats, and to report what amendments in the law and its administration are desirable." The committee, of which Sir John Dickson-Poynder, Bart., M.P., is chairman, has been constituted as follows: Mr. W. Ryland Adkins, M.P., Mr. T. A. Bramsdon, M.P., Dr. R. W. Branthwaite, H.M. Inspector of Inebriate Reformatories, Mr. W. C. Bridgeman, M.P., Dr. H. E. Bruce-Porter, Dr. H. B. Donkin, one of H.M. Inspectors of Prisons, Dr. C. A. Mercier, and Mr. J. Rose, a metropolitan police magistrate. The secretary of the Commission is Mr. J. F. Henderson, to whom correspondence may be addressed at the Home Office, London, S.W.

THE DESMOID REACTION FOR INVESTIGATING THE FUNCTIONS OF THE STOMACH.

Professor Sahli, of Berne, in 1905 devised a new method for investigating the functions of the stomach, known as the desmoid reaction (δεσμός, a tendon). It depends upon the fact, first noticed by Professor A. Schmidt, that connective tissue is digested and dissolved by the normal gastric juice but not by the intestinal secretions. The method, as described by M. Dubourdieu and M. Lemaire in the *Bulletin des Sciences Pharmacologiques* for March, consists in inclosing a tablet of methylene blue in a membrane of caoutchouc and tying with a catgut ligature to form a small sac, which is swallowed by the patient immediately after the midday meal. Under the action of the gastric juice the caoutchouc remains intact but the catgut is digested more or less quickly, according as the gastric juice is normal or otherwise, with the result that after an interval methylene blue appears in the urine. By observing whether a positive or negative result is obtained, and in the former case whether the time of the appearance of the methylene blue is normal, premature, or retarded, it is possible to arrive at valuable conclusions as to the functional condition of the stomach. In Germany this method has been tried with varying success, owing probably to non-compliance with certain minor but essential details in the technique. The caoutchouc should be of best quality, supple, and about two millimetres in thickness. The catgut should be raw, unsterilised, and 0·3 millimetre in diameter. The methylene blue, weighing about three-fourths of a grain, should be compressed sufficiently to hold it together without being so hard as to hinder it from being quickly dissolved. By following the minute directions given by M. Dubourdieu and M. Lemaire little sacs may be prepared which perfectly inclose the stain, as shown by immersing them for a time in hot water. The appearance of methylene blue in the urine is easily recognised but that of its chromogen is ascertained by boiling the urine with acetic acid. The method has been tried at the Saint André Hospital, Bordeaux, in parallel with that of Ewald, and the diagnostic results obtained have been subsequently confirmed by surgical intervention and otherwise. It is simple, rapid, and capable of clinical control, whereas Ewald's method is complex, prolonged, and largely dependent on the patient. As a result the latter method is liable to involve serious when inner tube was replaced, fan belt loose, &c., all trivial faults but faults which caused a stoppage that need not have taken place. But where possible I advocate being one's own driver. It is much more interesting and in addition much cheaper; chauffeurs as a rule are not as thoughtful of wear and tear, especially of tyres, as owner-drivers. With a lad at 10*s.* a week to do the cleaning it is not only possible but in addition most enjoyable to keep a car in running order, getting a mechanic in, say, once a month to do little jobs, and after a time, if you make a point of watching the mechanic and the way he goes to work, his services may be dispensed with and the job done by the owner himself. A small bench with a vice is soon and cheaply put up, by preference at the back of the motor-shed. And when doing so I suggest a substantial one, with jaws nearly four inches in width. A shelf can be put up for odd tools, such as spanners, pliers, screw-driver, hammers, &c., and with these and a little patience a great deal can be done, and later on if the hobby proves, as I know it will, fascinating, then stocks and dies can be added, and even a lathe, and those that advance as far as this will, I think, even go further and add a small forge. But "go slowly"; it is only waste of money to buy many tools until you really feel the need of them. As I have already said, with only a few spanners much can be done.

About the first job a man learns to do is to take out and clean the sparking plugs, and, oh, what energy is exhibited in making the points bright, but it is as well to remember that the presence of soot there is of no account unless it is sufficient to short or bridge between the live and earthed leads, the common seat of offence being shorting between the central electrode and the shell of the plug and thus no spark at the points. A little petrol or paraffin squirted up the plug and a bit of rag on the end of a darning-needle should soon effect a cure. The plug can then be tested by shorting it on to the engine, joining on the high-tension wire and pulling the engine round, and even then though a good spark at the points results it does not follow that it will do so when in the cylinder under compression, as then the added resistance may cause the spark to pass through small defects in the insulation which it would miss when the pass was easy. It is important to remember to couple up the high-tension wire to a plug when pulling the engine round as otherwise the coil may be damaged by burning the insulation. It is, of course, better to have occasionally to take out and to clean the plugs through over-lubrication than not to have to do so and to have the piston rings squeaking for oil, but there is a happy medium and the engine can be properly oiled without sooting the plugs. It is worth while remembering that if the accumulators are run down and others not procurable it is possible to get the engine to go, so as to get home, by approximating the sparking plug points a bit. The usual gap is one-twentieth to one-sixteenth of an inch. Short circuits are a great source of worry and of roadside involuntary halts. An easy method to detect these torts is to run the engine in the dark; a dull blue flicker soon shows where the leakage is and a little piece of rubber will soon cure the complaint. Personally, I think prevention better than cure, so I have encased each insulated wire on my car in gas rubber tubing, and where they are exposed or likely to rub I have again surrounded them with a lead pipe fixed to the frame, and all the accumulator leads I have brought into a two-inch lead pipe, one end of which is brought through the battery box and then burred over, while the other is fixed to the dashboard. Numbering the leads prior to pushing them through the lead pipe obviates any confusion and is an advantage if a lead has to be followed up. Fibre tubes can also be had and are of use in lieu of the lead pipe.

Of plugs there are no end. The "Poignon," "E. I. C.," and "Oleo" are three among many which rarely give trouble. Personally, I prefer those with china insulation; with a good make cracking of the porcelain rarely occurs, but it is always as well to carry a spare plug. New porcelains are more easily fitted at home than on the road. But because an engine does not fire it does not follow that there is either a short or a diseased plug, the cause may be either at the commutator or the coil. In trembler coils the platinum points may stick as a result of pitting or burning. The treatment in this case will be to remove the screw and trembler blade and dress the points with a small file, so that they are quite true with one another, and then adjust the screw so that a good "buzz" is obtained. In the non-trembler type the screw and trembler at the commutator may need similar treatment and then the screw must be fixed so that there is just room for a thin visiting card to be inserted between the two platinum points. In the wipe commutator fitted with trembler coils, as a result of weakness of the wipe spring, there may not be enough pressure to get good contact when the engine is running quickly, or there may be uneven wear of the fibre with perhaps a ridge near the metal contact, causing the wipe to jump and so miss fire, or the bush of the rocking-piece may be worn so that there is play and consequent want of alignment of the blades with the fibre wheel, or dirt may get in between the two and thus prevent good contact. An inspection soon shows if these morbidities exist; if the wipe spring is weak it can be bent or a new one fitted, or if the roller or block is worn they can be filed true. If the fibre ring or wheel is uneven it should be taken off and spun in the lathe, while any ridge can be taken off with a file. If the bush is worn and time does not permit of a new one being fitted a bit of copper wire makes an excellent washer and will keep the wheel true for a time.

THE BELFAST HEALTH COMMISSION.

THE long-expected report of the Belfast Health Commission, issued as a Blue-book of 150 pages, was made public on April 24th. The commissioners, who were appointed at the request of a deputation of Belfast citizens who waited on the then Chief Secretary of Ireland (Mr. Bryce), consisted of Colonel Thomas Walter Harding, D.L., formerly Lord Mayor of Leeds (chairman); Dr. Archibald Kerr Chalmers, medical officer of health of the city of Glasgow; Dr. Ludovic W. Darra Mair, a medical inspector of the English Local Government Board; Mr. Peter Chalmers Cowan, M.Inst.C.E., chief engineering inspector to the Local Government Board, Ireland; and Surgeon-Colonel David Edgar Flinn, F.R.C.S. Irel., one of the medical inspectors of the Local Government Board, Ireland. These commissioners were appointed to make inquiry and to report as to the following matters in regard to Belfast: "(1) The cause or causes of the high death-rate. (2) The administration by the several authorities charged therewith of all general Acts and Orders relating to the public health and the prevention of disease and of all provisions of local Acts conversant with the same or similar matters, and of all other Acts and Orders, whether general or local, which directly or indirectly affect the public health of the city. 3. The measures they recommend for adoption with a view to the improvement of the health of the city." After a preliminary meeting at Manchester on Feb. 20th, 1907, to discuss arrangements and to settle the order of procedure, the commissioners commenced their sittings in the City Hall, Belfast, on March 5th of that year and terminated them on July 24th, lasting in all 32 days, during which 93 witnesses were examined. They also made personal visits to all localities and places that had any bearing on the health of Belfast and we give below their conclusions and recommendations:—

1. We estimate the population of Belfast for 1906 at about 350,000. The official estimate of the Registrar-General for Ireland (366,220) is, in our opinion, too low, and that based on the method employed by the Registrar-General for England and Wales (397,272) is too high. It is desirable that the methods of framing estimates of population for intercensal years by the Registrars-General for the three divisions of the United Kingdom, should be reconsidered with a view to arriving at such reasonable uniformity as may make possible useful comparisons of vital statistics.

2. The corporation of Belfast, like other local authorities in Ireland, are without information as to the details of deaths occurring in their district, beyond the mere numerical particulars obtained from the Registrar-General's official publications. Such information is of essential importance, for without it a sanitary authority cannot adequately search for or cope with causes of disease and death. We cannot urge too strongly the importance of this matter. The most effective and natural way of dealing with it is to follow the precedent of the English and Scottish Registration Acts, even if such a method involves fresh legislation; and we recommend that this should be done. The proposal to obtain from the Registrar-General for Ireland returns of the deaths ascribed to epidemic diseases and phthisis only we consider to be inadequate.

3. Our examination of a variety of data indicates that the death-rate from all causes in Belfast is, and has been for several years, about the same as that of Manchester, rather lower than that of Dublin or Liverpool, but not so low as that of other large cities of the United Kingdom. Although the death-rate of Belfast from all causes is by no means low, we think the allegation that it is, or has been in recent years, excessive, cannot be maintained.

4. On the other hand, mortality in Belfast from certain causes, notably from enteric fever and from phthisis, and to a less extent, from diseases of the nervous system, has been excessive.

5. Although Belfast holds a not unfavourable place among other large cities in regard to infantile mortality, the death-rate among the

MOTORING NOTES.

By C. T. W. Hirsch, M.R.C.S. Eng., L.R.C.P. Lond.

THE Motor Union of Great Britain and Ireland has appointed from among its members the following committee of medical motorists to protect the interests of the general body of medical men using motor-cars and to advise the Motor Union on all matters in which the interests of medical men as motorists are particularly concerned:—Mr. C. B. Lockwood (London), Mr. W. Watson Cheyne (London), Mr. J. C. Barker (Watford), Dr. Lovell Drage (Hatfield), Mr. E. L. Rowe (Ipswich), Mr. C. B. Moss-Blundell (Thornton Heath), Mr. S. R. Russell Matthews (Peckham), Mr. J. R. Benson (Bath), Mr. W. J. Gilpin (Bourne), Dr. W. F. R. Burgess (Streatham), Mr. L. A. Bidwell (London), Dr. J. Lewis Lock (Uxbridge), Mr. E. W. Marshall (Mitcham), Mr. W. E. C. Musson (Hammersmith), Mr. J. Hopkins Walters (Reading), Dr. P. P. Whitcombe (London), Dr. C. Buttar (London), Mr. H. Myddelton-Gavey (Eastbourne), Dr. C. R. M. Wood (Woolpit), Dr. B. Holroyd (Pannal), Mr. A. T. Falwasser (Maidstone), Mr. F. T. Travers (Maidstone), Mr. G. Horatio Jones (Deddington), Mr. A. Lindow (Plumstead), Dr. Priestley Leech (Halifax), Dr. D. J. Mason (Maidenhead), and Dr. A. Page Robertson (Glasgow). At a meeting held at the offices of the Union, 1, Albemarle-street, Piccadilly, London, W., Mr. C. B. Lockwood was unanimously elected chairman of the committee and Dr. J. L. Lock vice-chairman. The question of the position of medical men in reference to the proposed taxation of motor-cars was considered and it was resolved that a letter should be sent to the Chancellor of the Exchequer, signed by all members of the committee, embodying the following resolution:—

> That in the opinion of medical motorists any additional taxation upon motor cars would not be equitable and would press with special severity upon medical men who use motor vehicles to enable them to carry out their professional duties.

The new charges of the Metropolitan Water Board for water for washing cars were considered and it was resolved that the proposed charge of 20*s.* per car per annum was excessive and unfair as compared with the rate for water for horse carriages and it was resolved to approach the Board upon the matter.

However good a pneumatic tyre may be there is always the possibility—and the pessimist will say the probability—that a nail or a sharp flint may puncture it, and then delay occurs. Punctures which happen when an urgent case is awaiting one are serious. It is true the Stepney wheel will save the situation to an extent, but doctors will, I know, welcome a tyre that cannot puncture and a tube which, as long as it is covered by a cover, lasts—well, almost for ever. Such is what the "Elastes"-filled tube is claimed to be. And so convinced are the Elastes Company of the efficiency of their invention that they recently submitted a 18 h.p. Siddeley car, fitted with elastes-filled tubes on the wheels, to a 3000 miles trial under the Royal Automobile Club's observation. Knowing my interest in these matters the company kindly offered me a seat on the car while the trial was on. For nearly four years I ran a car on solid tyres; my nerves still remember the bumps, and my banking book reveals from the cheques then drawn for repairs, the costs of solids, not for the tyres, but for differential gears or sleeves that gave out as a result of "solid tyres." So it was in a very sceptical mood that I turned my pneumatic-tyred car out at the early hour of half-past seven one morning and drove to the Royal Automobile Club garage in Down-street, Piccadilly. There I left the air-filled tube car and in company with the Automobile Club observer and the representative of the Elastes Company mounted what I erroneously thought must be a solid-tyred vehicle. We had 150 miles to do, and though some of the roads we travelled over were really bad, especially in London, and some further out were stone-covered and unrolled, still I could not tell that we were not riding on air-filled tubes. In addition, it did not seem to alter our speed. The 18 h.p. Siddeley can do its 40 miles an hour. We had a speed indicator on the car, and if it read correctly (and I believe it did) we at times exceeded 40, and certainly there seemed to be no difference in the running either as regards speed, comfort, or resiliency. The question then occurred to me whether, although one did not feel any discomfort, it caused more jar to wheels or to the machinery, especially the transmission gear. The car in question has a live axle and a metal-to-metal clutch, and had done over 2000 miles of the test when I had my run; all that time it had been in charge of the club officials and had not needed any repairs at all. With solid tyres, though the car is, I know, of good make, still I think with a metal-to-metal clutch and a live axle something would have given work to the repairers; and the fact that no repairs had been needed, and that as far as I could tell the machinery was perfect, shows, I venture to think, that elastes-filled tyres give as great protection to the machinery as pneumatic tyres. The spokes of the wheels seemed to be perfectly tight, although on my solid-tyred car, after some thousand miles, they became a bit loose.

Having thus had actual proof that this "stuffing" was of use, I thought I would find out something about its composition. Well, it looks like the patent substance used for filling pessaries, stuff that is supposed not to harden and to keep the instrument soft. For all I know it may be the same material; it consists of glue, glycerine, and chromate salts; these are mixed in a hot state and then forced into an ordinary inner tube, which has a valve to let the mixture in and another to let the air out; these tubes, or *boyaux* as they are called, are placed in a special cover, which is really a mould, and then subjected to a pressure which varies according to the weight and horse-power of the car the *boyau* is intended for, then the valves are removed, the tube is sealed, and set aside for the contents to solidify, and after a period of about ten days it becomes a solid resilient mass. As a result of experience the makers only fit their speciality on their moveable flange rims, as with ordinary rims there may be irregular bedding of the cover bead in the rim flange and thus damage to the filling. Their rim is very simple, merely an ordinary rim from which one flange has been removed; this is fixed to the wheel, the cover with the *boyau* inside is put on, then the moveable flange is put on, and the two are held together by bolts that pass through the felloe, and so that wet shall not enter, there is a groove on the lower part of the felloe, into which a rubber ring fits, and against this the moveable flange presses. The makers, I understand, undertake to convert customer's wheels to take this rim, plugging the ordinary valve and securing bolt holes. They only insist on having the cover, for which the elastes is needed, as if the *boyau* is not a perfect fit it will wear badly or even be damaged. If the cover is sent to them they will mould the *boyau* to it, and as long as care is taken to remove any nails or other matter which may have penetrated the tube, and the cover really covers the tube, then the elastes-filled tube can be used over and over again. They have fitted no less than five covers over one elastes-filled tube and they are of opinion that the tube is no nearer its end than on the day it was first fitted.

The official observer very kindly allowed me to see a variety of horse-shoe and other nails that had been found in the tyres after some of the daily trips and after the journey which I had a long nail was withdrawn which would have surely punctured a pneumatic tyre but had had no effect on elastes. As a result of my day's outing I have made up my mind that when I need new tyres I will have elastes, and I seriously counsel all of the profession investing in cars to have a run on a car so tyred and to experience for themselves how impossible it is to tell the difference between tyres so filled and pneumatics. It can be used with any covers.

Mr. Duckham, in a recent number of the *Motor Car Journal*, outlined a bonus scheme for chauffeurs which seemingly he has found to answer well. As he remarks, delays mean loss of money and unpunctuality, quite apart from the ordinary annoyance of being hung up, and this is especially so with the profession, so for those who have neither time nor inclination to do their own driving and who have professional chauffeurs his plan is certainly worth trying. His agreement with his man was that in addition to a fixed pay he was to have £30 at the end of 12 months, on the conditions that 2*s.* 6*d.* was deducted for every time the car was stopped on the road by any trouble which could have been avoided had the car received proper attention in the motor house, and in addition every time on the road any sign of omission was observed, which though it did not cause a stop might have done so. His man lost 17 half-crowns in the year, the causes of the stoppages being petrol-jet blocked, omission to fill up petrol tank, forgetting to replace cap on valve of the front off tyre, leakage of gas from acetylene gas generator, no paraffin in side lamp, pliers forgotten, magneto terminal loose, chalk forgotten

Dinajpur district. At Jalpaiguri the fever mortality was so high as to cause the Duar Planters' Association to memorialise the local government for the appointment of a commission to inquire into the fevers of the Duars, which were seriously threatening the prosperity of the tea industry. The association also asked for an inquiry into the causation and treatment of blackwater fever, which has also lately become alarmingly prevalent amongst the Europeans. The government is considering this memorial and we trust that the application of the Planters' Association may attain its object speedily, for the death-rate does not abate during "considerations." The sanitary condition under which the coolies and employers live is evidently not perfect, for the coolie lines are insanitary villages run up without any attempt at regularity or order and are crowded with a fever-stricken population, remaining year by year practically without control or medical treatment. The endemic fever index has been reckoned on some gardens as high as 74·83 per cent. Rangpur, again, is another district in which the heavy mortality from fever is notorious. The Deputy Sanitary Commissioner, Captain O. A. Gourlay, I.M.S., was deputed to make a local inquiry and found various sources for the unhealthiness. As the result of his inquiry a scheme has been sanctioned whereby the drainage of the whole area of the *bhil* country will be improved.

Kala-azar showed much less incidence during 1906, there being 623 cases less than in 1905. Not a single case was found on the banks of the Darrang river in the Garo Hills, the home of the disease. Bowel affections showed a death-rate of 0·90, compared with 0·74 per 1000 the decennial ratio. Several outbreaks of plague occurred in the province in 1906. Nearly all the cases of the severe epidemics which have occurred here have been of the pneumonic variety; in fact, only one example of the bubonic class has occurred, namely, at Dibrugarh; the latter appeared to have been connected with granaries and infected rats, whereas this was not the case as regards the pneumonic cases.

This interesting report concludes with some observations on the sanitary work of the province and some general remarks. Amongst the latter the paragraphs concerning the sale of quinine are worthy of attention. Depôts are now opened at each headquarter station under the direction of the civil surgeon and the price of the drug is reduced. During 1906 there has been a considerable increase in the number of packets issued to the population—2094, in contradistinction to 1021 in 1905. To popularise the remedy in a greater degree it is being issued as sugar-coated quinine tablets and leaflets in the vernacular are being distributed telling the story of the malarial fevers. Special hospital assistants for the distribution of the remedy are also recommended. The report concludes with a series of appendices of vital statistics.

United Provinces of Agra and Oudh.

The thirty-ninth annual report of the Sanitary Commissioner for the United Provinces of Agra and Oudh for 1906 comes from the pen of Lieutenant-Colonel S. J. Thomson, I.M.S. In the first place, we here note that the birth-rate was below, and the death-rate above, the normal. With respect to the history of the chief diseases, the following facts are recorded. Cholera caused a larger number of deaths than in 1905 and in the quinquennial mean, the death-rates being respectively 3·14, 2·55, and 1·07 per 1000, the largest number occurring in May and the smallest in January. All the districts suffered more or less from the disease in the year under report. Small-pox also showed an increased mortality, there having been 13,202 deaths, as against 3273 in 1905, the death-rates being 0·28 and 0·07 respectively. Plague fortunately was much less prevalent, there being 69,660 deaths in 1906 as compared with 383,802 in 1905, the rates being 1·46 and 8·05 respectively. Fevers showed an increase in the number of deaths, the death-rates for 1906, 1905, and the quinquennium being 27·62, 26·92, and 25·29 respectively. There was a very severe and widespread epidemic from September until the close of the year, no less than 43·7 per cent. of the total cases occurring during this period. The anti-malarial measures consisted in improving the surface drainage and filling up hollows and excavations. Measures to destroy mosquitoes and their larvæ were only undertaken on a limited scale and in a few districts. The quantity of quinine sold at the various agencies showed a very satisfactory increase, the number of packets of powders being 1,205,181, as compared with 643,668 in 1905. Dysentery and diarrhœa gave a less return than in 1905, the death-rates having been for these years 0·55 and 0·56 per 1000 respectively; the quinquennial average is 0·61. Here, again, the largest number of deaths took place in May. Respiratory diseases gave a return of 20,139 cases, against 23,271 in 1905, but the Sanitary Commissioner considers the mortality to have been understated owing to this heading having only been recently included in the return. January gave the greatest mortality. The report deals likewise with the civil sanitary works, from which it is seen that great attention is being paid to the disposal of the sewage. The various analyses of the water-supply were satisfactory. The Sanitary Commissioner in his concluding remarks states that 1906 is shown to have been an unhealthy year. Mortality was higher from malarial fever, cholera, small-pox, and measles, although considerably lower as regards plague. This is probably the last sanitary report that this able officer will write and he well deserves the recorded appreciation of his services by the Lieutenant-Governor of the province—services which have been rendered for the last 11 years.

Punjab.

Lieutenant-Colonel C. J. Bamber, I.M.S., is responsible for the sanitary report of the Punjab for 1906. It is very satisfactory to note that the death-rate for 1906 exhibits a very substantial decrease of 10·61 per 1000 as compared with that of 1905, the respective ratios being 36·94 and 47·55 per 1000. For this diminution the lessened mortality from plague is chiefly responsible. For the first time also since 1901 the birth-rate exceeds the death-rate. With regard to the causes of mortality, that from fevers was rather greater than in 1905, 407,878 deaths being registered from this cause, or more than half the mortality from all causes. Yet the year 1906 was not particularly unhealthy in this respect, for the death-rate from this class of disease was below the average for the previous five years. Cholera was more prevalent than in the year preceding but the death-rate was very small, only 0·21 per 1000. The total deaths numbered 4232. The disease was reported from all the districts, the largest number occurring in that of Lahore. Its seasonal prevalence followed the usual course, being mostly present in July, August, and September. Small-pox accounted for a rate of 0·66 per 1000, which is 0·43 more than in the previous year and 0·18 in excess of the mean rate of the preceding quinquennium. But although the actual number of deaths registered must be considered very excessive compared with that shown by all civilised countries where vaccination is carried out thoroughly, yet not only was the death-rate in the Punjab very much higher in former years when vaccination was less thoroughly carried out, but also it is to be noted that during the last 40 years, since the introduction of the system of death registration in 1867, there has been a successive reduction of the disease in each decennium.

With regard to plague the most marked feature of the year was the diminution in plague mortality, which fell to the lowest figure recorded since 1901, there being 91,712 deaths reported, as compared with 334,897 in 1905. This lessening of the mortality might encourage the idea that a natural decline of the epidemic had begun but there is no evidence to support such an assumption, for at the end of the year plague was as bad as ever. The people of the province, although generally apathetic, are gradually becoming less suspicious of proffered assistance. By far the majority of the cases were bubonic with a certain number of pneumonic and comparatively few septicæmic cases. The case mortality in the British districts was 87 per cent., no general diminution in virulence being apparent. With regard to the present plague policy that is pursued, this is based primarily on the recognition of the fact that the annual seasonal epidemics lasting from autumn to spring depend chiefly on recrudescences in a large number of places and spreading from these over the surrounding country. Hence the primary importance of preventing these recrudescences: this is a matter of much difficulty due to the impossibility of discovering definitely every endemic centre, whilst they must be attacked before infection becomes active, which makes the time available for the operations very short. The work is then so enormous that plague will break out in many places before all, or even a number of, the endemic centres have been treated. The operations in 1906 have, however, been fairly successful in stamping out recrudescence or in causing comparative freedom from the disease. Evacuation was found to be the most effective measure; disinfection is not of so much advantage as it is but rarely that information is other young age groups of the population appears to have been excessive in Belfast. The causes operating to produce this relatively high mortality at these young ages should be thoroughly investigated.

6. The mean annual mortality from enteric fever has been so exceptional in Belfast for the last 25 years that it appears to have no parallel in any other city or large town in the United Kingdom. Insanitary conditions have no doubt played a very important part in fostering enteric fever in Belfast, but cannot of themselves account for so excessive a mortality from this disease or for other features of its history. The water-supply cannot account for fever in Belfast, because there has been no relation between the distribution of the disease and the distribution of any one of the three separate sources of water-supply. On the contrary, the incidence of fever on different parts of the city has been generally similar and simultaneous, irrespective of water-supply or insanitary conditions, and moreover it appears to have almost exclusively affected the working-class areas of the city. Neither can the constant excess of enteric fever in Belfast be attributed to the local and occasional outbreaks which have been traced to infected milk. On the other hand, the known features of the history of Belfast fever are consistent with an explanation attributing them to the influence, direct and indirect, of shell-fish gathered from the grossly contaminated foreshores of Belfast Lough.

7. No system of sewage treatment, within practicable limits of cost, will fully safeguard the lough shell-fish, and we are of opinion that powers should be obtained to prohibit the gathering of these shell-fish for human consumption.

8. Mortality referred to phthisis and other tuberculosis diseases has been, and is, excessive in Belfast in comparison with English and Scottish cities, but it has not been exceptional for an Irish city. Since 1895 there has been some diminution of it in Belfast. The age and sex incidence of phthisis mortality in Belfast and Ireland is very different from what it is in Manchester and in England and Wales. It may to some extent be due to differences in disease nomenclature in the two countries. The whole question of phthisis in Ireland seems to us to require further and exhaustive inquiry.

9. We have refrained from any recommendations in regard to the notification of phthisis and the provision of sanatoria or dispensaries, as the Local Government Board for Ireland have advised local authorities in recent circulars, and we understand that a Bill on these subjects is about to be introduced by the Chief Secretary for Ireland.

The report with its severe strictures and its numerous recommendations thoroughly justifies the action of the citizens and of the medical profession who, in the interests of their city and of public health, demanded the inquiry. We propose to discuss some of the features of the report in a future article.

SANITARY REFORM IN INDIA.

VII.[1]—THE ANNUAL SANITARY REPORTS.

THE annual reports of the authorities responsible for the sanitation of the various provinces of India for the year 1906 deal with an immense amount of material in connexion with Bengal, Eastern Bengal and Assam, the United Provinces, the Punjab, the Central Provinces and Berar, Burma, the North-West Frontier, Bombay, and Simla.

Bengal.

The thirty-ninth annual report of the Sanitary Commission for Bengal for 1906 is issued by Lieutenant-Colonel F. O. Clarkson, I.M.S., the Sanitary Commissioner for that province. It deals comprehensively with the facts relating to the meteorology of the year, the vital statistics, the history of the chief diseases and of vaccination, the sanitary works, and the work of the Sanitary Board. With respect to the meteorological facts, the rainfall was remarkably heavy during the cold season months; that of February established an absolute record, the number of rainy days being three or four times greater than usual; in contradistinction to this the monsoon period generally gave but a scanty rainfall with irregular distribution, and the public health was thereby affected and was worse in 17 districts. The vital statistics showed a falling off in both the number of births and deaths recorded, amounting to 116,268 in the case of the former and 114,439 in that of the latter. The reduced birth-rate was evidently due to the general unhealthiness of the year 1905 and to the prolonged continuance of high prices of food grains everywhere, which, by lowering the vitality of the people, acted as a check on the growth of the population. As regards the deaths, the decrease was due to the comparatively smaller mortality from plague and fever.

Coming next to the history of the chief diseases, we find that there were a much extended prevalence of, and a serious rise in the mortality from, cholera, there having been 192,596 deaths, as compared with 116,490 deaths the average mortality of the five years 1901–05, the respective ratios being 3·81 and 2·33 per 1000. In fact, never since 1900, when the cholera mortality was the highest ever recorded, has there been such a heavy loss of life from this cause. The mortality was highest in the province as a whole during April and May and lowest in February and January. The death-rate from small-pox was more than thrice as large as in the preceding year, the ratios being respectively 0·43 and 0·14 per 1000. With respect to plague there was a very satisfactory reduction, the total deaths being 59,619, against 126,084 in the preceding year, the ratios corresponding being 1·17 and 2·52 per 1000. A larger percentage of females perished than of males. During the year under report 1777 antiplague inoculations were performed, against 1544 during the preceding year. No cases of, or deaths from, plague were reported anywhere amongst the inoculated. The disease was most prevalent during the first four months of the year, there being then considerable coolness and excessive rains, whilst with the onset of the hot weather there was a sudden drop in the mortality. With regard to the means undertaken for its suppression chemical disinfection was carried out in special cases where it was asked for and in several municipal areas where it could be supervised. Disinfection by heat and examination of infected houses became very popular. At Barari a knapsack sprayer was used to spray the inside of infected houses with kerosene oil emulsion and was attended with signal success. Lastly, rat-killing is seen to be gradually becoming popular. In Jaghdispur this was carried on in a systematic way and the town enjoyed complete immunity from the disease, whilst the latter recrudesced and prevailed with much severity in adjoining thanas and nearly all the other towns in the district. Fever prevailed with somewhat less severity than in 1905, there being 1,126,315 and 1,214,487 deaths respectively. Antimalarial measures were carried on in certain districts, such as filling in hollows and depressions, clearing jungles, and spreading kerosene oil on all foul tanks and cesspools, and in one place quinine was distributed free as a prophylactic. Dysentery and diarrhœa caused 1809 more deaths than in 1905. The report concludes with the sections relative to sanitary works and the annual report of the Sanitary Board, Bengal, for 1906, together with the various appendices relating to the above facts.

Eastern Bengal and Assam.

Lieutenant-Colonel E. C. Hare, I.M.S., the Sanitary Commissioner for Eastern Bengal and Assam, furnishes the report for the year 1906 for this province. Here the district reports did not record any severe waves of cold or heat and the rainfall, evenly distributed over the land, was neither markedly excessive nor deficient. The high prices for grain and its scarcity, which had prevailed in 1905, continued also in 1906, but on investigation, although in some districts the scarcity was undoubtedly due to heavy and prolonged floods at the time when the rice crop was growing, elsewhere it seems to have been due rather to excessive exports of grain and to a limitation of the area under rice cultivation, owing to an increase in the demand for jute and the high price realised by its cultivation; but whatever were the causes of the scarcity, there is no evidence that the high price had any marked effect on the general health of the people, the provincial death-rate being approximately the same as it had been during the last five years and that from bowel complaints being only slightly in excess of the decennial rate. The provincial birth-rate was 37·38, as compared with the quinquennial rate of 39·63. The death-rate was 31·67 for the year, practically the same as that of the previous five years—viz., 31·66—and much lower than that for 1905, which was 35·06, this decrease being chiefly due to a lessened mortality from fevers. The chief causes of mortality were found to be fever, cholera, dysentery, diarrhœa, and small-pox. With respect to cholera the provincial death-rate was higher than that of the decennial average, although lower than that of 1905, the ratios being respectively 3·63, 2·45, and 4·77 per 1000. In the account of the causation we note the drinking of contaminated water as the immediate cause of the outbreaks, so much so that the people are at length beginning to realise the necessity of having good water and applications for grants for improving the existing tanks, making new ones, and sinking wells are numerous. Almost all the civil surgeons who have had to do with the epidemic outbreaks report very favourably on the preventive method of treating the water-supplies with permanganate of potassium.

With respect to the returns for fever, the rate was lower by 1·90 per 1000 than that of the last ten years, although it was high in certain individual towns and rural areas, such as the

---

[1] Nos. I., II., III., IV., V., and VI. were published in THE LANCET of Feb. 22nd (p. 582) and 29th (p. 631), March 14th (p. 806) and 21st (p. 855), and April 11th (p. 1101) and 25th (p. 1223), 1908, respectively.

Dinajpur district. At Jalpaiguri the fever mortality was so high as to cause the Duar Planters' Association to memorialise the local government for the appointment of a commission to inquire into the fevers of the Duars, which were seriously threatening the prosperity of the tea industry. The association also asked for an inquiry into the causation and treatment of blackwater fever, which has also lately become alarmingly prevalent amongst the Europeans. The government is considering this memorial and we trust that the application of the Planters' Association may attain its object speedily, for the death-rate does not abate during "considerations." The sanitary condition under which the coolies and employers live is evidently not perfect, for the coolie lines are insanitary villages run up without any attempt at regularity or order and are crowded with a fever-stricken population, remaining year by year practically without control or medical treatment. The endemic fever index has been reckoned on some gardens as high as 74·83 per cent. Rangpur, again, is another district in which the heavy mortality from fever is notorious. The Deputy Sanitary Commissioner, Captain C. A. Gourlay, I.M.S., was deputed to make a local inquiry and found various sources for the unhealthiness. As the result of his inquiry a scheme has been sanctioned whereby the drainage of the whole area of the *bhil* country will be improved.

Kala-azar showed much less incidence during 1906, there being 623 cases less than in 1905. Not a single case was found on the banks of the Darrang river in the Garo Hills, the home of the disease. Bowel affections showed a death-rate of 0·90, compared with 0·74 per 1000 the decennial ratio. Several outbreaks of plague occurred in the province in 1906. Nearly all the cases of the severe epidemics which have occurred here have been of the pneumonic variety; in fact, only one example of the bubonic class has occurred, namely, at Dibrugarh; the latter appeared to have been connected with granaries and infected rats, whereas this was not the case as regards the pneumonic cases.

This interesting report concludes with some observations on the sanitary work of the province and some general remarks. Amongst the latter the paragraphs concerning the sale of quinine are worthy of attention. Depôts are now opened at each headquarter station under the direction of the civil surgeon and the price of the drug is reduced. During 1906 there has been a considerable increase in the number of packets issued to the population—2094, in contradistinction to 1021 in 1905. To popularise the remedy in a greater degree it is being issued as sugar-coated quinine tablets and leaflets in the vernacular are being distributed telling the story of the malarial fevers. Special hospital assistants for the distribution of the remedy are also recommended. The report concludes with a series of appendices of vital statistics.

United Provinces of Agra and Oudh.

The thirty-ninth annual report of the Sanitary Commissioner for the United Provinces of Agra and Oudh for 1906 comes from the pen of Lieutenant-Colonel S. J. Thomson, I.M.S. In the first place, we here note that the birth-rate was below, and the death-rate above, the normal. With respect to the history of the chief diseases, the following facts are recorded. Cholera caused a larger number of deaths than in 1905 and in the quinquennial mean, the death-rates being respectively 3·14, 2·55, and 1·07 per 1000, the largest number occurring in May and the smallest in January. All the districts suffered more or less from the disease in the year under report. Small-pox also showed an increased mortality, there having been 13,202 deaths, as against 3273 in 1905, the death-rates being 0·28 and 0·07 respectively. Plague fortunately was much less prevalent, there being 69,660 deaths in 1906 as compared with 383,602 in 1905, the rates being 1·46 and 8·05 respectively. Fevers showed an increase in the number of deaths, the death-rates for 1906, 1905, and the quinquennium being 27·62, 26·92, and 25·29 respectively. There was a very severe and widespread epidemic from September until the close of the year, no less than 43·7 per cent. of the total cases occurring during this period. The anti-malarial measures consisted in improving the surface drainage and filling up hollows and excavations. Measures to destroy mosquitoes and their larvæ were only undertaken on a limited scale and in a few districts. The quantity of quinine sold at the various agencies showed a very satisfactory increase, the number of packets of powders being 1,205,181, as compared with 643,658 in 1905. Dysentery and diarrhœa gave a less return than in 1905, the death-rates having been for these years 0·55 and 0·56 per 1000 respectively; the quinquennial average is 0·61. Here, again, the largest number of deaths took place in May. Respiratory diseases gave a return of 20,139 cases, against 23,271 in 1905, but the Sanitary Commissioner considers the mortality to have been understated owing to this heading having only been recently included in the return. January gave the greatest mortality. The report deals likewise with the civil sanitary works, from which it is seen that great attention is being paid to the disposal of the sewage. The various analyses of the water-supply were satisfactory. The Sanitary Commissioner in his concluding remarks states that 1906 is shown to have been an unhealthy year. Mortality was higher from malarial fever, cholera, small-pox, and measles, although considerably lower as regards plague. This is probably the last sanitary report that this able officer will write and he well deserves the recorded appreciation of his services by the Lieutenant-Governor of the province—services which have been rendered for the last 11 years.

Punjab.

Lieutenant-Colonel C. J. Bamber, I.M.S., is responsible for the sanitary report of the Punjab for 1906. It is very satisfactory to note that the death-rate for 1906 exhibits a very substantial decrease of 10·61 per 1000 as compared with that of 1905, the respective ratios being 36·94 and 47·55 per 1000. For this diminution the lessened mortality from plague is chiefly responsible. For the first time also since 1901 the birth-rate exceeds the death-rate. With regard to the causes of mortality, that from fevers was rather greater than in 1905, 407,878 deaths being registered from this cause, or more than half the mortality from all causes. Yet the year 1906 was not particularly unhealthy in this respect, for the death-rate from this class of disease was below the average for the previous five years. Cholera was more prevalent than in the year preceding but the death-rate was very small, only 0·21 per 1000. The total deaths numbered 4232. The disease was reported from all the districts, the largest number occurring in that of Lahore. Its seasonal prevalence followed the usual course, being mostly present in July, August, and September. Small-pox accounted for a rate of 0·66 per 1000, which is 0·43 more than in the previous year and 0·18 in excess of the mean rate of the preceding quinquennium. But although the actual number of deaths registered must be considered very excessive compared with that shown by all civilised countries where vaccination is carried out thoroughly, yet not only was the death-rate in the Punjab very much higher in former years when vaccination was less thoroughly carried out, but also it is to be noted that during the last 40 years, since the introduction of the system of death registration in 1867, there has been a successive reduction of the disease in each decennium.

With regard to plague the most marked feature of the year was the diminution in plague mortality, which fell to the lowest figure recorded since 1901, there being 91,712 deaths reported, as compared with 334,897 in 1905. This lessening of the mortality might encourage the idea that a natural decline of the epidemic had begun but there is no evidence to support such an assumption, for at the end of the year plague was as bad as ever. The people of the province, although generally apathetic, are gradually becoming less suspicious of proffered assistance. By far the majority of the cases were bubonic with a certain number of pneumonic and comparatively few septicæmic cases. The case mortality in the British districts was 87 per cent., no general diminution in virulence being apparent. With regard to the present plague policy that is pursued, this is based primarily on the recognition of the fact that the annual seasonal epidemics lasting from autumn to spring depend chiefly on recrudescences in a large number of places and spreading from these over the surrounding country. Hence the primary importance of preventing these recrudescences: this is a matter of much difficulty due to the impossibility of discovering definitely every endemic centre, whilst they must be attacked before infection becomes active, which makes the time available for the operations very short. The work is then so enormous that plague will break out in many places before all, or even a number of, the endemic centres have been treated. The operations in 1906 have, however, been fairly successful in stamping out recrudescence or in causing comparative freedom from the disease. Evacuation was found to be the most effective measure; disinfection is not of so much advantage as it is but rarely that information is other young age groups of the population appears to have been excessive in Belfast. The causes operating to produce this relatively high mortality at these young ages should be thoroughly investigated.

6. The mean annual mortality from enteric fever has been so exceptional in Belfast for the last 25 years that it appears to have no parallel in any other city or large town in the United Kingdom. Insanitary conditions have no doubt played a very important part in fostering enteric fever in Belfast, but cannot of themselves account for so excessive a mortality from this disease or for other features of its history. The water-supply cannot account for fever in Belfast, because there has been no relation between the distribution of the disease and the distribution of any one of the three separate sources of water-supply. On the contrary, the incidence of fever on different parts of the city has been generally similar and simultaneous, irrespective of water-supply or insanitary conditions, and moreover it appears to have almost exclusively affected the working-class areas of the city. Neither can the constant excess of enteric fever in Belfast be attributed to the local and occasional outbreaks which have been traced to infected milk. On the other hand, the known features of the history of Belfast fever are consistent with an explanation attributing them to the influence, direct and indirect, of shell-fish gathered from the grossly contaminated foreshores of Belfast Lough.

7. No system of sewage treatment, within practicable limits of cost, will fully safeguard the lough shell-fish, and we are of opinion that powers should be obtained to prohibit the gathering of these shell-fish for human consumption.

8. Mortality referred to phthisis and other tuberculosis diseases has been, and is, excessive in Belfast in comparison with English and Scottish cities, but it has not been exceptional for an Irish city. Since 1895 there has been some diminution of it in Belfast. The age and sex incidence of phthisis mortality in Belfast and Ireland is very different from what it is in Manchester and in England and Wales. It may to some extent be due to differences in disease nomenclature in the two countries. The whole question of phthisis in Ireland seems to us to require further and exhaustive inquiry.

9. We have refrained from any recommendations in regard to the notification of phthisis and the provision of sanatoria or dispensaries, as the Local Government Board for Ireland have advised local authorities in recent circulars, and we understand that a Bill on these subjects is about to be introduced by the Chief Secretary for Ireland.

The report with its severe strictures and its numerous recommendations thoroughly justifies the action of the citizens and of the medical profession who, in the interests of their city and of public health, demanded the inquiry. We propose to discuss some of the features of the report in a future article.

SANITARY REFORM IN INDIA.

VII.[1]—THE ANNUAL SANITARY REPORTS.

THE annual reports of the authorities responsible for the sanitation of the various provinces of India for the year 1906 deal with an immense amount of material in connexion with Bengal, Eastern Bengal and Assam, the United Provinces, the Panjab, the Central Provinces and Berar, Burma, the North-West Frontier, Bombay, and Simla.

Bengal.

The thirty-ninth annual report of the Sanitary Commission for Bengal for 1906 is issued by Lieutenant-Colonel F. C. Clarkson, I.M.S., the Sanitary Commissioner for that province. It deals comprehensively with the facts relating to the meteorology of the year, the vital statistics, the history of the chief diseases and of vaccination, the sanitary works, and the work of the Sanitary Board. With respect to the meteorological facts, the rainfall was remarkably heavy during the cold season months; that of February established an absolute record, the number of rainy days being three or four times greater than usual; in contradistinction to this the monsoon period generally gave but a scanty rainfall with irregular distribution, and the public health was thereby affected and was worse in 17 districts. The vital statistics showed a falling off in both the number of births and deaths recorded, amounting to 116,268 in the case of the former and 114,439 in that of the latter. The reduced birth-rate was evidently due to the general unhealthiness of the year 1905 and to the prolonged continuance of high prices of food grains everywhere, which, by lowering the vitality of the people, acted as a check on the growth of the population. As regards the deaths, the decrease was due to the comparatively smaller mortality from plague and fever.

Coming next to the history of the chief diseases, we find that there were a much extended prevalence of, and a serious rise in the mortality from, cholera, there having been 192,596 deaths, as compared with 116,490 deaths the average mortality of the five years 1901–05, the respective ratios being 3·81 and 2·33 per 1000. In fact, never since 1900, when the cholera mortality was the highest ever recorded, has there been such a heavy loss of life from this cause. The mortality was highest in the province as a whole during April and May and lowest in February and January. The death-rate from small-pox was more than thrice as large as in the preceding year, the ratios being respectively 0·43 and 0·14 per 1000. With respect to plague there was a very satisfactory reduction, the total deaths being 59,619, against 126,084 in the preceding year, the ratios corresponding being 1·17 and 2·52 per 1000. A larger percentage of females perished than of males. During the year under report 1777 antiplague inoculations were performed, against 1544 during the preceding year. No cases of, or deaths from, plague were reported anywhere amongst the inoculated. The disease was most prevalent during the first four months of the year, there being then considerable coolness and excessive rains, whilst with the onset of the hot weather there was a sudden drop in the mortality. With regard to the means undertaken for its suppression chemical disinfection was carried out in special cases where it was asked for and in several municipal areas where it could be supervised. Disinfection by heat and examination of infected houses became very popular. At Barari a knapsack sprayer was used to spray the inside of infected houses with kerosene oil emulsion and was attended with signal success. Lastly, rat-killing is seen to be gradually becoming popular. In Jaghdispur this was carried on in a systematic way and the town enjoyed complete immunity from the disease, whilst the latter recrudesced and prevailed with much severity in adjoining thanas and nearly all the other towns in the district. Fever prevailed with somewhat less severity than in 1905, there being 1,126,315 and 1,214,487 deaths respectively. Antimalarial measures were carried on in certain districts, such as filling in hollows and depressions, clearing jungles, and spreading kerosene oil on all foul tanks and cesspools, and in one place quinine was distributed free as a prophylactic. Dysentery and diarrhœa caused 1809 more deaths than in 1905. The report concludes with the sections relative to sanitary works and the annual report of the Sanitary Board, Bengal, for 1906, together with the various appendices relating to the above facts.

Eastern Bengal and Assam.

Lieutenant-Colonel E. C. Hare, I.M.S., the Sanitary Commissioner for Eastern Bengal and Assam, furnishes the report for the year 1906 for this province. Here the district reports did not record any severe waves of cold or heat and the rainfall, evenly distributed over the land, was neither markedly excessive nor deficient. The high prices for grain and its scarcity, which had prevailed in 1905, continued also in 1906, but on investigation, although in some districts the scarcity was undoubtedly due to heavy and prolonged floods at the time when the rice crop was growing, elsewhere it seems to have been due rather to excessive exports of grain and to a limitation of the area under rice cultivation, owing to an increase in the demand for jute and the high price realised by its cultivation; but whatever were the causes of the scarcity, there is no evidence that the high price had any marked effect on the general health of the people, the provincial death-rate being approximately the same as it had been during the last five years and that from bowel complaints being only slightly in excess of the decennial rate. The provincial birth-rate was 37·38, as compared with the quinquennial rate of 39·63. The death-rate was 31·67 for the year, practically the same as that of the previous five years—viz., 31·66—and much lower than that for 1905, which was 35·06, this decrease being chiefly due to a lessened mortality from fevers. The chief causes of mortality were found to be fever, cholera, dysentery, diarrhœa, and small-pox. With respect to cholera the provincial death-rate was higher than that of the decennial average, although lower than that of 1905, the ratios being respectively 3·63, 2·45, and 4·77 per 1000. In the account of the causation we note the drinking of contaminated water as the immediate cause of the outbreaks, so much so that the people are at length beginning to realise the necessity of having good water and applications for grants for improving the existing tanks, making new ones, and sinking wells are numerous. Almost all the civil surgeons who have had to do with the epidemic outbreaks report very favourably on the preventive method of treating the water-supplies with permanganate of potassium.

With respect to the returns for fever, the rate was lower by 1·90 per 1000 than that of the last ten years, although it was high in certain individual towns and rural areas, such as the as motor traffic increases. It will be observed with satisfaction that the medical man was not held to have been to blame in any way for an accident which, as has been observed, might have been a very serious one for him. Medical practitioners in the exercise of their calling are likely at any time to find themselves urged to travel as rapidly as possible from point to point. Apart from the use of motor-cars, they have sometimes exposed themselves to censure for driving too fast, for using short cuts and bridle paths the dedication of which to public use has not been established, for riding their bicycles on footpaths, for trying to have public tramway cars stopped for their convenience at the nearest possible point to their patients' houses, and for asserting in other ways claims to privileges which they do not possess. All reasonable indulgence will no doubt be extended to any medical man hurrying to a patient's bedside when it is probably a case of "life or death" dependent upon his early arrival, but even this degree of urgency can confer upon him no right to imperil the lives or even the property of his fellow citizens, and the motor-car is so dangerous an engine when driven incautiously that nothing can justify departure from the rules that make for safety in using it. Mr. Corben, however, emerged with credit to himself and to his servant from a trial in which a counter-claim for heavier damages than he obtained for himself was made against him unsuccessfully, on the ground that his driver had been in the wrong.

---

[1] Nos. I., II., III., IV., V., and VI. were published in THE LANCET of Feb. 22nd (p. 582) and 29th (p. 651), March 14th (p. 806) and 21st (p. 833), and April 11th (p. 1101) and 25th (p. 1228), 1908, respectively.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between April 17th and April 24th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscriber of Five Guineas.

South Eastern (Ireland) Branch B.M.A., per P. Murphy.

Subscribers of Two Guineas.

Herbert E. Rayner, Camberley, Surrey.
T. W. Scale, Aberdare.
W. B. Wooding, Porthcawl.

Subscribers of One Guinea.

J. G. Black, Harrogate.
C. J. Caddick, Walsall.
C. Davidson, Coventry.
Freeland Fergus, Glasgow.
H. C. M., Jersey.
Frank Hinds, Worthing.
Robert Howden, Newcastle-on-Tyne.
John James, Borth, Cardiganshire.
John Knox, Bakewell.
H. Charles Ling, Keighley, Yorks.
James Lloyd, Llanbradach
Norman J. McCaskie, London.
J. Gay Moffat, Keighley, Yorks.
Alfred Phillips, London.
George W. Potter, London.
Fred. T. Roberts, London.
Reading Pathological Society, per M. W. Coleman.
W. G. Richardson, Newcastle-on-Tyne.
H. Cooper Rose, London.
A. Bruce Roxburg, London.
W. W. Sargent, Abertillery.
George C. B. Saunders, Tunbridge Wells.
H. M. Stewart, Dulwich.
E. Solly, Harrogate.
A. Hugh Thompson, London.
Ernest O. B. Voisin, Jersey.
Percy Warner, Woodford Green, Essex.
Thomas Wingrave, London.
John Young, London.

Subscribers of Half-a-Guinea.

R. Allan Bennett, Saltburn-by-the-Sea.
George A. Crace-Calvert, Ruthin, N. Wales.
S. Davey, Caterham Valley, Surrey.
Walter H. Dodd, Wimborne, Dorset.
C. H. Gamble, Barnstaple.
K. Haslam, London.
Cecil Hughes, London.
J. Bowen Jones, Pontycymmer.
Percy J. Kingston, Yeovil, Somerset.
William Morgan, Swansea.
H. Ward Ramsay, London.
George B. Scott, London.
D. E. Thomas, Newport, Mon.

Subscribers of Ten Shillings.

William Scotland, Colinton.
John Stewart, Glasgow.

Subscribers of Five Shillings.

Percy Ashworth, Southport.
Cecil Berry, Wigan.
Colin Campbell, Southport.
C. P., London.
Alfred Linnell, Towcester.
Charles Moon, Dundee.
Charles D. Muspratt, Bournemouth.
Percival Smith, Tredegar, Mon.
H. J. Spon, London.

Subscribers of other Amounts.

	£	s.	d.
Coventry Division B.M.A., per John Orton	3	19	0
Southampton Division B.M.A., per G. H. Cowen	3	1	6
Aldershot Medical Society, per E. W. Routley ...	1	7	0
R. A. Yeld, London ...	0	7	6

Mr. William Sheen will be obliged if, in order to insure the correct entry of names, subscribers will inclose their visiting cards.

THE NEW GALLERY.

THE twenty-first summer exhibition of the New Gallery was opened to the public on April 25th. The tendency of the exhibition is apparently year by year to devote a greater space to the arts and crafts—in the sense, that is to say, of jewellery, metal work, enamel, embroidery, and like applications of the handicrafts. Let us first consider the sculpture that is exhibited in the Central Hall, in which by far the most prominent piece in every respect is No. 307, "Adrift," by Mr. John Cassidy, a striking achievement in the nude which presents many features of anatomical excellence. The group is of a family adrift upon a raft and is composed of father, mother, and three children, a girl of about 15, a boy a year or two younger, and a male infant whom the mother clasps anxiously; the father stands up, waving a piece of sail to attract attention, and his commanding figure forms the apex of the group in a manner which suggests that upon him depend the fortunes of the family. A point upon which Mr. Cassidy is to be congratulated is that the mother and daughter are not merely two nude female figures of different sizes; that of the mother is the figure of a woman who has borne and nursed children, a point obvious to medical men, whilst the figure of the daughter, although the development of the breasts show her to have attained puberty, yet accurately presents the anatomy of a young girl. Another piece of sculpture which we can commend is No. 303, Mr. Conrad Dressler's bust of Sir William Crookes. No. 320, Messrs. Morris's tapestry, from a design by the late Sir E. Burne-Jones, is a noteworthy piece of work, both as to colour and execution, whilst Nos. 321 and 322, exhibits of jewellery by M. Lalique and M. Lucien Galliard, are well worth study. Of the pictures the most interesting to medical men is perhaps No. 242, the careful portrait of Mrs. Scharlieb, M.D., M.S., by Mr. Hugh Riviere. Another medical portrait, that of Dr. Alfred Wolff (No. 28), has been simply and effectively painted by Mr. Harold Speed. There are three portraits which stand out pre-eminent above the others, and we mention them in their order of excellence: First comes No. 239, Sir George Reid's dignified and strong presentment of Lord Halsbury. Next we should place No. 262, the Lady Constance Stewart of Mr. W. D. von Glehn, a portrait of incisive originality, and approaching to it, from the point of view of cleverness, is No. 125, a portrait of Miss Lewis by Mr. Sargent, a notable study in blues and greys. Other interesting portraits are Mr. Shannon's Mrs. Buckley (No. 226), Mr. Labery's Mrs. McEwen, Mr. George's Henry's Marchioness of Tullibardine (No. 218), and No. 145, Mr. John Collier's "Joan and Cyrus." With regard to the subject pictures, the two which will attract most attention are No. 223, "The Rajah's Birthday," by Mr. Frank Brangwyn, and No. 256, "Tom-tôm Players, Ceylon," by Mr. E. A. Hornell. They both handle broad effects of strong tropical light and shade in a masterly manner, and whatever may be thought of their respective merits there can be no doubt that Mr. Brangwyn's work affords the more daring conception of the two. As a contrast in effect, though equally striking in execution, is No. 120, "The Monastery," by Mr. S. Melton Fisher, a picture which shows the quality of imagination. In the balcony are exhibited numerous examples of handicraft and applied art, among which may be specially mentioned No. 325, silver work, by Miss Florence Steele, and No. 327, the silver and shagreen work of Mr. Paul Cooper. Various cases of jewellery are exhibited which are well-worth study; in one instance the artist appears to have derived inspiration from a careful study of the decorative features of the "valentine" of the mid-Victorian era.

WEST LONDON POST-GRADUATE COLLEGE.—The summer session will commence at the West London Hospital, where prospectus and syllabus of the course can be obtained from the Dean, on Monday, May 11th. The following arrangements have been made for the opening week:—Daily, 2 P.M., Medical and Surgical Clinics; X-Rays. 2.30 P.M., Operations. Monday and Thursday, 2 P.M., Mr. H. P. Dunn, Diseases of the Eyes. Tuesday and Friday, 10 A.M., Dr. J. A. M. Moullin, Gynæcological Operations; 2.15 P.M., Dr. H. J. Davis, Diseases of the Throat, Nose, and Ear; 2.30 P.M., Dr. P. S. Abraham, Diseases of the Skin. Wednesday and Saturday, 10 A.M., Dr. E. A. Saunders, Diseases of Children; 2 P.M., Dr. K. Scott, Diseases of the Eyes; 2.30 P.M., Dr. G. D. Robinson, Diseases of Women.

received sufficiently early to allow of its successful application. One of the best and most effective methods not only of mitigating plague incidence but also of diminishing its mortality when an epidemic is in progress was found to be inoculation. With regard to rat destruction, on account of the favourable results obtained it was pursued with vigour. Captain G. I. Davys, I.M.S., at Amritsur reports that out of 18 well-authenticated centres of endemic plague no case of plague occurred in 11 where rat destruction was thoroughly carried out. Amongst the other diseases noted we find that dysentery and diarrhœa accounted for a mortality of 0·87 per 1000, as against 0·68 in the previous year. The report concludes with an account of the sanitary work executed during the year, with some general remarks and with the usual statistics. We are glad to note here the free distribution of quinine by means of the vaccinators and other officials in the country districts.

MEDICINE AND THE LAW.

Jamaica Rum and Demerara Rum.

Messrs. J. H. Graham and Co., spirit merchants, were convicted recently at Newcastle and fined £5 with £20 costs at the instance of the Jamaica Government for selling a pint of spirit labelled "Jamaica rum" which was, in fact, rum from Demerara. The defendants pleaded guilty and excused themselves on the ground that little distinction was drawn in the north of England between Jamaica rum and the Demerara spirit and also that as only the price of the latter was charged the public was not defrauded. No doubt those interested in the trade of Jamaica instituted the prosecution with full cognisance of these facts and with the intention that the distinction between Jamaica rum and cheaper liquor of inferior quality should be brought to the attention of north country purchasers who can still buy Demerara rum under that title should they prefer it.

Exemplary Sentence on a Milk Dealer.

Considerable satisfaction must have been felt by those responsible for the recent conviction of a man named Joseph Winchester at Feltham who was charged with selling as milk machine-skimmed milk to which had been added, according to the analysis of two samples taken, 6 per cent. and 3 per cent. of water. He was charged with his brother George who when the inspector called his attention to the fact that the two cans from which he was asking for samples contained milk of different colour suggested that the cow in the case of one of them had been "fed on buttercups." There were no previous convictions against George Winchester, however, and his explanation that he was only acting for his brother Joseph, who was the owner of the business, contributed to his being punished by a fine of £1 only with costs. When, however, the bench came to deal with the case of Joseph the county inspector, Mr. Walter Tyler, laid before them a list of his previous convictions in various places since 1894 which had been punished by fines of 9*s.*, 6*d.*, £2, £1, £5, £9 3*s.*, £20, £25, and £100; the total, with costs, amounting to nearly £170. Attention may be called to the trivial penalties of 9*s.* and of 6*d.* inflicted on the first two convictions, which certainly did not act as a deterrent from what must have been a profitable form of fraud to a man who has now been sent to prison with hard labour for three months.

Death from Eating Chromate of Potassium.

An inquest was held recently at the City coroner's court upon a girl, aged 15 years, who had died as the result of eating a piece of chromate of potassium under the impression that it was a form of sweatmeat. Dr. F. J. Waldo in commenting on the fact that chromate of potassium is not subject to regulation as a scheduled poison, contrasted the ease with which a child might purchase it with the precautions which would surround the sale of a pint of beer to the same young person. There are, no doubt, some chemical substances which would be less likely to do injury to children or ignorant adults if they were always sold retail under labels showing them to be poisonous or even unwholesome. Children especially are not so wary as their seniors of trying experiments with anything that may turn out to be palatable, and photography, electricity, and other scientific mysteries of their parents' childhood supply the common plaything of the child of to-day. Young people, moreover (and even their elders), although they may have some knowledge of the substances which they are handling, may yet be careless in the matter of leaving them about, and may be rendered less so if they are reminded of their qualities.

Mr. Troutbeck on Deaths under Anæsthetics.

At a recent inquest at Westminster it was proved that the deceased, a boy, aged 13 years, had died while undergoing an operation under an anæsthetic in the Hospital for Diseases of the Throat, Golden-square, and the jury, after returning a verdict of "Accidental death," added the expression of their opinion that proper care had been taken by the authorities of the hospital. We have no doubt that this opinion was perfectly correct and those responsible for the administration of the anæsthetic in the case in question were without blame for the death into which the jury were summoned to inquire. We certainly, however, should not have regarded the opinion of such a tribunal as in any way conclusive had it been adverse and we do not concur in observations made to the jury by the coroner, Mr. John Troutbeck, upon the subject. He is reported to have referred to the very important subject of the administration of anæsthetics and of the deaths which take place under them and to have told the jury, no doubt correctly, that it was their function to satisfy themselves as to whether the cases inquired into were treated by persons possessing the requisite amount of skill and whether death occurred in spite of the due exercise of that skill. He then pointed out that the principal evidence on such occasions was that of the persons into whose conduct inquiry was being held (i.e., the medical men respectively administering the anæsthetic and performing the operation) and referred to post-mortem examination conducted by an independent witness, not connected with any hospital or with its medical staff, as the only check that could be had upon the conduct and evidence of the medical witnesses directly connected with the case. He admitted that the evidence of the latter was the more strictly valuable and that consequently the check was not a very effective one. With the opinion thus expressed, if we have summarised it correctly, we do not agree. The post-mortem examination held in such cases as those described will prove, or will corroborate other evidence with regard to, the physical conditions which led to the death of the patient. It cannot prove what was the conduct of the anæsthetist or of the surgeon during the period preceding the death apart from, or in contradiction of, their evidence, unless we assume that evidence to have been deliberately perjured and clumsily invented. They must remain the only witnesses as to what their acts or omissions may have been, and as members of an honourable profession they will give that evidence truly, even though in conceivable cases it may tend to convict them of error. The hardship to which they have to submit is that they must appear as witnesses before a jury of laymen who in the majority of cases are not even well-educated laymen.

A Medical Man's Motor-car in Collision.

An action in the Chepstow county court recently ended in a verdict for the plaintiff, Mr. C. Corben, for £16 in respect of damage done to his motor-car by another owned by Mr. R. G. Harding, and it would appear to be a matter of congratulation for the plaintiff that the injuries were inflicted upon his car only and were not of a more serious and personal character. The evidence showed that he was being driven to a patient's house and that as his car was issuing at a pace of between four and five miles an hour from a narrow side lane into a main road his driver sounded his horn, but that at the same moment the defendant's car, proceeding to the railway station to meet a train, for which purpose it was late, was coming along the middle of the road and was being driven at between eight and 12 miles an hour, in itself not an excessive rate of speed. The proof as to which car ran into the other, so far as it was independent of the evidence of eye witnesses, was established by the marks on the plaintiff's car, and the considerable damage done to that of the defendant was shown to have accrued after the impact when it became unmanageable and ran into walls, first on the one side of the road and then on the other. That this should have occurred at the point of collision shows that it was a place calling for the exercise of great caution and it is therefore not surprising that the dearth of signposts in Monmouthshire was commented upon unfavourably in the course of the case. Their effect in calling attention to "blind" corners round which vehicles may emerge unexpectedly is one which deserves the special attention of all local authorities of scarlet fever showed a further slight decline, but caused death-rates equal to 1·2 in Leyton and to 1·5 in Wallasey. The 35 deaths attributed to diarrhœa exceeded those in the previous week by five, and the 21 deaths referred to "fever" also showed a slight increase; the deaths from "fever" included three in Birmingham and three in Huddersfield. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 20 preceding weeks from 5581 to 2887, had further fallen to 2861 on April 25th; 332 new cases were, however, admitted to these hospitals during the week under notice, against 297 and 328 in the two preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 274 in each of the two preceding weeks, rose to 301 in the week under notice, and corresponded with the corrected average number in the corresponding week of the five years 1903–07. The 31 deaths directly referred to influenza in London showed a further decline from the numbers in recent weeks. The causes of 62, or 1·3 per cent., of the deaths registered in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 47 other smaller towns; 12 uncertified causes of death were, however, registered in Birmingham, nine in Liverpool, eight in Gateshead, and seven in Sheffield during the week under notice.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 19·7, 18·8, and 16·4 per 1000 in the three preceding weeks, rose again to 18·8 in the week ending April 25th, and exceeded by 3·4 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 11·4 and 12·3 in Aberdeen and Leith, to 20·7 in Perth and 21·4 in Paisley. The 663 deaths in these eight towns showed an increase of 85 upon the number returned in the previous week, and included 77 which were referred to the principal epidemic diseases, corresponding with the number in the previous week; of these, 34 resulted from measles, 14 from diarrhœa, 12 from whooping-cough, seven from "fever," seven from diphtheria, and three from scarlet fever, but not one from small-pox. These 77 deaths were equal to an annual rate of 2·2 per 1000, while the mean rate from the same diseases in the 76 English towns during the week did not exceed 1·2. The 34 fatal cases of measles showed a further decline from the numbers in recent weeks, and included 25 in Glasgow, seven in Edinburgh, and two in Paisley. The 14 deaths attributed to diarrhœa exceeded the number in the previous week by three. The 12 fatal cases of whooping-cough were, however, fewer than in any recent week; four occurred both in Glasgow and in Edinburgh and two in Dundee. The seven deaths referred to "fever" were all returned in Glasgow; of these, five were certified as cerebro-spinal meningitis and two as enteric. Of the seven fatal cases of diphtheria three occurred in Glasgow and two in Dundee; and all the three deaths from scarlet fever were returned in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 128 and 121 in the two preceding weeks, further declined to 113 in the week under notice, but exceeded by one the number returned in the corresponding week of last year. The causes of 24, or 3·6 per cent., of the deaths in these eight towns during the week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 1·3 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 22·5 and 23·1 per 1000 in the two preceding weeks, declined to 21·1 in the week ending April 25th. During the first four weeks of the current quarter the death-rate in Dublin averaged 23·2 per 1000; the mean rate during the same period did not exceed 15·4 in London and 15·6 in Edinburgh. The 160 deaths of Dublin residents registered in the week under notice showed a decline of 15 from the number returned in the previous week, and included seven which were referred to the principal epidemic diseases, corresponding with the number in the previous week. These seven deaths were equal to an annual rate of 0·9 per 1000, the rate during the week from the same diseases being 1·3 in London and 1·9 in Edinburgh. Of these seven deaths from epidemic diseases in Dublin three resulted from measles, two from whooping-cough, and two from diarrhœa, but not one either from scarlet fever, diphtheria, "fever," or small-pox. The fatal cases of measles corresponded with the number in the previous week, while those of whooping-cough were fewer by one. The 160 deaths from all causes in the city during the week included 26 of infants under one year of age and 43 of persons aged upwards of 60 years; the number of deaths of elderly persons showed a considerable decline from the numbers in recent weeks. Two inquest cases and two deaths from violence were registered, and 82, or 51·3 per cent., of the deaths occurred in public institutions. The causes of seven, or 4·4 per cent., of the deaths registered in the city during the week under notice were not certified; all but one of the 1420 deaths in London last week were duly certified, and in Edinburgh the proportion of uncertified deaths did not exceed 1·6 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: C. Bradley to the *Cæsar*, on recommissioning; J. L. Smith, M.V.O., to the *President*, additional, for three months' course at West London Hospital; H. B. Beatty to Royal Marine Division, Chatham; and R. Miller to the *Magnificent*. Staff-Surgeons: S. Roach to the *President*, additional, for three months' course at West London Hospital; N. J. Roche to the *Victory*, additional, for Portsmouth Dockyard; W. K. Hopkins to the *Edgar*, temporary; E. G. E. O'Leary to the *Sutlej*, on recommissioning; and E. S. Miller to the *Cornwallis*, on recommissioning. Surgeons: G. E. Hamilton to the *Hannibal;* W. N. Blatchford to the *Sutlej*, on recommissioning; C. K. Bushe to the *Cornwallis*, on recommissioning; P. D. Ramsay to the *Vivid;* and W. T. Haydon to the *Vivid*, additional, and to the *Cæsar*, on recommissioning.

INDIAN MEDICAL SERVICE.

The King has approved of the following retirements:—Lieutenant-Colonel Alfred Ernest Roberts (dated April 21st, 1908). Lieutenant-Colonel William Alexander Lee (dated April 7th, 1908). Lieutenant-Colonel Kavasji Hormasje Mistri (dated March 4th, 1908).

VOLUNTEER CORPS.

Rifle: 3rd (Duke of Connaught's Own) Volunteer Battalion, The Hampshire Regiment: Surgeon-Captain Bonner H. Mumby to be Surgeon-Major (dated March 17th, 1908); Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Charles Knott resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 20th, 1908). 5th (Isle of Wight, Princess Beatrice's) Volunteer Battalion, The Hampshire Regiment: James Albert Gibson to be Surgeon-Lieutenant (dated March 1st, 1908). 2nd Volunteer Battalion, The Essex Regiment: Kenneth Simonds Storrs to be Surgeon-Lieutenant (dated March 6th, 1908).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Bedford Bearer Company: Supernumerary Captain Edmund F. Bindloss (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Bedford Volunteer Infantry Brigade) to be Major, remaining supernumerary (dated Feb. 1st, 1908).

ROYAL ARMY MEDICAL CORPS AMBULANCE SECTION.

Permission has been given for the formation of an Ambulance Section of the Royal Army Medical Corps at Camborne and Redruth in connexion with the Plymouth Field Ambulance, R.A.M.C. The head-quarters will be at Camborne.

LITERARY INTELLIGENCE.—Messrs. Cassell and Co. are issuing almost immediately a new and revised edition of "Hygiene and Public Health," by Dr. B. Arthur Whitelegge and Dr. George Newman. The same publishers are also producing a new volume by Dr. G. Ernest Herman, entitled "The Student's Handbook of Gynæcology," based upon the author's "Diseases of Women." It contains 172 illustrations.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 1st, 1830.

ON THE MEDICAL SERVICE OF THE EAST INDIA COMPANY.

LETTER IV.[1]

To the Editor of THE LANCET.

SIR,—Before proceeding further in the consideration of the ultimate and sole recompense to medical officers of the East India Company's service, that is, their retiring pensions, it may be proper to mention the form of admission, at the India House, of recruits for this establishment, which is well calculated to deceive. It is this; that "assistant surgeons are permitted to proceed to their respective presidencies, Calcutta, Madras, or Bombay, as the case may be, to practise as *surgeons, and to be admitted on the* establishments as vacancies may occur." This form has been observed for the last ten or twelve years. To practise as *surgeons, where?—Upon whom?—For what?* —The thing is quite absurd, and ridiculous; and merely "ad captandum"—to deceive, by giving an idea that, independent of the high prospects which the Company's service holds out, money is to be made in India, even on landing, by private practice! It is but fair, however, to mention, that, according to the present writer's information, no one has hitherto been left to absolute starvation in this way. Medical officers, shipped for India, in compliance with requisitions to the Court of Directors from the several presidencies, *have hitherto been wanted to fill up vacancies,* occasioned by casualties, long before the period of their arrival in India. At the presidencies, medical practice is in the *hands of two or three Company's surgeons. It is only at the* Presidencies, that medical officers are paid for professional attendance. At out-stations, a "honorarium," or fee, to the medical attendant, is seldom, if ever, dreamt of; so that, on the Madras establishment, at least, not above one surgeon in one hundred, after from twenty to thirty years' service, happens to receive, in fees and presents, a sum equal to the *payment of his passage-money back to England*, or 2,000 rupees. Medical men are not prohibited from receiving presents, or fees, in India, on account of professional practice; but their *patients (excepting at the Presidencies,* or towns of Calcutta, Madras, or Bombay) must necessarily be Company's servants; and it is not obligatory on them to pay for medical *advice and attendance*; whereas, the attendance of medical men, on all occasions, is obligatory, with or without a fee. Medical men never expect, it may *be said never accept*, a *remuneration from the military*; and civilians, who alone are able to pay them, very seldom think any return for their assistance necessary. It has been ruled, *however, by the supreme government*, and by the subordinate governments, that it is the duty of every medical man, to attend at the call of any person within his reach who *may* want his *services*, without fee or reward, and at his own expense for personal conveyance. Let it be understood that such unrequited summonses are often frivolous, and at distances of *upwards of* fifty miles. Disobedience of these calls renders the surgeon liable to trial by court-martial; or to suffer by the more usual mode of punishing medical delinquents—marching them incessantly about the country to the most distant places, until they sink under fatigue, privation of every sort, despondency, and the malignant influence of the climate. *From* natives, who seldom ask the help of an English surgeon, the compliment seldom exceeds a small present of fruit, or sweetmeats, a fowl, or a lean goat, or sheep, and, on very extraordinary occasions, perhaps, a well-darned shawl, not worth 20 rupees, and which has been an heir-loom in the family for the best part of a century. So much *for the practice* of a surgeon in India. ......

Let us now see, by a comparative statement, in what proportions the Honourable Company *compensate* and appreciate the labours of their two classes of servants—*soul*-curers and *body*-curers.

Pay on Retirement.

"A chaplain, after eighteen years' service in India, including three years for one furlough," (that is, after fifteen years' actual residence in India), "*is* allowed to retire on the pay of lieutenant-colonel, 365*l.* per annum."

"A medical officer, after twenty years in India, including three years for *one* furlough," *(that is, after seventeen years'* service in India,) "is permitted to retire from the service on the pay of captain, 191*l.* 12*s.* a year." After twenty and *thirty years' service in India*, the same, *191l. 12s.*

"A chaplain, if *compelled to quit the service on account* of ill health, after ten years' service in India, is allowed to retire on the half-pay of lieutenant-colonel, 200*l.* 15*s.* a year.

"A *medical officer, if compelled to* quit the service on account of ill health, *after ten years' service in India,* is (or rather was) permitted to retire on the half pay of lieutenant, *73l.*; *after* six years, on the half pay of ensign, *54l. 15s.*; after thirteen, on the half pay of his rank, that of full surgeon, if fortunate, 127*l.* 15*s.*; or of lieutenant, if the reverse, *73l.*

"A chaplain, after seven years' residence in India, is allowed to come home on furlough, and receive the pay of *major*, *292l.* a *year; should he come home from sickness* prior to this period, he is to receive the pay of captain only."

"A medical officer, after ten years' service in India, is allowed *to come home* on furlough, and *receive the pay of* lieutenant, 95*l.* 16*s.* 3*d.* a year."

X.

---

[1] Excerpts only have been transcribed.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8013 births and 4780 *deaths were registered during the week ending* April 25th. The annual rate of mortality in these towns, which had steadily declined in the four preceding weeks from 17·4 to 15·2 per *1000*, was equal to *15·4 in the* week under notice. During the first four weeks of the current quarter the death-rate in these towns has averaged only 15·7 per *1000*; the rate in London during the same period did not exceed 15·4. The lowest annual death-rates in the 76 towns during the week under notice were 6·7 in Hornsey, 7·3 in Willesden, 8·1 in Southampton, and 9·3 in King's Norton; the rates in the other towns ranged upwards to 20·5 in Devonport, 20·9 in Oldham, 22·9 in Rochdale, and 23·5 in Stockton-on-Tees. The rate of mortality in London during the week did not exceed 15·4. The 4780 deaths in the 76 towns during the week showed an increase of 32 upon the low number returned in the previous week, and included 376 which were referred to the principal epidemic diseases, against numbers declining from 487 to 382 in the four preceding weeks; of these, 138 *resulted from whooping-cough*, 101 from measles, 49 from diphtheria, 35 from diarrhœa, 32 from scarlet fever, and 21 from "fever" (principally enteric), but not *one from* small-pox. The deaths *from* these epidemic *diseases* were equal to an annual rate of 1·2 per 1000, *corresponding with the rate in the previous week; the rate* from the *same* diseases in London *was equal to 1·3*. No death from any of these epidemic diseases was registered last week in Leicester, York, Aston *Manor, Coventry, or in* nine other *smaller towns;* the annual death-rates from these diseases, however, ranged upwards to 2·8 in Huddersfield, 3·0 in Smethwick and *in Birkenhead*, and 3·5 in Rochdale. The fatal cases of whooping-cough in the 76 towns, which had been 204, 150, and 134 in the three preceding weeks, rose again to 138 *in the week under notice*; the highest death-rates from this disease in these towns last week were 2·0 in Sunderland and in Newport, 2·3 in Smethwick, and 2·6 in *Devonport*. The 101 deaths from measles were fewer by 26 than those in the previous week; they caused death-rates, however, equal to 1·1 in Salford and in Swansea, 1·3 in Birkenhead, and 1·8 both in Preston and in Rochdale. The deaths from diphtheria, which had been 53 and 39 in the two previous weeks, rose again to 49 last week, and included 13 in London, four in West and East Ham, two in Wolverhampton and in Walsall, four in Liverpool, *five in Manchester and Salford,* three in *Hull, and two in* Middlesbrough. The 32 fatal cases

Sambon says the disease is known as croup or angina in full-grown animals but in calves is known as diphtheria. Now we are on safe ground and we may take the calves as exhibiting "diphtheria." The term croup or angina signifies to me nothing but a sore-throat, it is a clinical term, certainly not diphtheria as we know it in man. *Diphtheria in calves has nothing whatever to do with diphtheria in man.* The cause of calf diphtheria is well known and inquiry would have informed Dr. Sambon that it is due to the bacillus of necrosis and not to the Klebs-Löffler organism. This was shown by Löffler long ago—by one of the discoverers of the organism said to produce human diphtheria—and yet despite this fact, Dr. Sambon says calves suffer from (human) diphtheria or a diphtheritic condition transmissible to man. The most interesting case of diphtheria in the cow he does not refer to, that described by Dean and Todd in the *Journal of Hygiene*. In this case there was no doubt but that the disease had been inoculated into the cow by the milker and in all cases of diphtheria in the cow with which I am acquainted the animal suffered as a consequence of infection from a human source or from experimental inoculation. The cow was the unhappy victim, but because of her misfortune the disease cannot be assigned to the cow as an infection natural or common to the cow. Dr. Sambon in his paper brings in a lot of extraneous matter, including tuberculosis. I may be permitted also here to refer to that infection. Tuberculosis is extremely rare, if ever it occurs, as a natural infection of rabbits and guinea-pigs. These animals may, however, be readily infected, and so it may happen with the cow in diphtheria. I think I am justified in saying that any cow showing lesions containing the organism of human diphtheria has been infected from a human source. So far as I am aware there is no recorded case of diphtheria in the cow where the human element can be entirely excluded. Dr. Sambon says as to sheep, "The disease is especially prevalent in young lambs; it is in every way similar to that of calves." *This is perfectly true; the cause is the same:* the bacillus of necrosis. I am not prepared to say that swine may not be infected because they are open to infection probably more than any other of the domestic animals that do not cohabit with man. The reason is obvious because of the material often given to swine. I can imagine a pig becoming infected that has been fed on poultices used upon human diphtheritics and other material coming from the sick room, but nevertheless an undoubted case of diphtheria in swine has to be recorded. Lesions occur in this animal also due to the bacillus of necrosis. As to the rabbit, the organism just mentioned is peculiarly fatal for this animal, and judging from the lesions met with in rabbits I am surprised that these animals have not been claimed by Dr. Sambon as subject to diphtheria. I am inclined to some extent to agree that the cat may be the means of disseminating the disease, but I consider in this case that we may look upon the animal as a literal intermediary bearer—a mere transmitting agent of the disease. The animal is infected from a human source and conveys it to other human beings. It may suffer from the disease or it may convey infective material from patient to healthy subject in its fur. The cases in cats can all be traced originally to a human source and although this is the case diphtheria as a disease in cats and dogs is rare. I place no weight whatsoever upon the reference given to the disease in dogs mentioned by Williams as having been seen in the winter of 1878–79. If diphtheria was even rarely met with we should have heard of cases recorded by the many eminent veterinarians who have made the diseases of dogs their earnest and continuous study.

Now as to the disease in birds. Avian diphtheria is not due to the Klebs-Löffler organism. I agree with Ritter that organisms indistinguishable from the organism of necrosis in calves may be abundantly met with and I have experimental proof of fowls being infected directly from calves suffering from so-called calf-diphtheria. In widespread epidemics among pigeons the cause is doubtless other than the organism of necrosis, and Leclainche has shown that in an epidemic he investigated the cause was an organism included in the group of organisms producing septicæmia. Various opinions are held as to the cause of avian diphtheria, which I need not trouble your readers with, not the least interesting organism being a protozoon. Certain it is that those who have worked at this disease in birds are not unanimous as to the organism, but the Klebs-Löffler bacillus is not claimed as the causal agent. I think, therefore, that Dr. Sambon will have to produce more evidence than he has done in support of his opinion that the organism of human diphtheria attacks the lower animals to the degree he maintains. It cannot be placed to the ignorance of members of the veterinary profession that they have hitherto failed to diagnose lesions produced by this organism because clinical evidence has been wanting, and I am certain I am now voicing the whole of the profession. If ever a case had arisen where there was reason to suspect diphtheria they would not have failed to send the material where a correct diagnosis could be made. At any rate, no one has the right to say that such material exists and that the profession has failed to recognise it and that we require the assistance of others to make our diagnosis. We of the veterinary profession pay particular attention to the diseases transmissible from animals to man, and if diphtheria were at all common, or even if it were a comparatively rare event, then there would be no hesitation in making the facts known; indeed, it would be our bounden duty so to do. I am afraid, at the risk of being told to mind my own business, I must say there is too great a tendency to blame the cow (and other animals) for the spread of epidemics and that every avenue for the propagation of the disease is not closed before the cow is called in and summarily convicted. Anyone familiar with our milk-supply, to give a single instance, and the way that very necessary commodity is treated in its course from cow to consumer need not marvel that it is a vehicle for spreading disease. The *fons et origo* is not in every case the cow, and to do her justice we have no right to modernise *cherchez la femme* into *cherchez la vache*.

I am, Sir, yours faithfully,
A. E. METTAM.

Royal Veterinary College, Dublin, April 20th, 1908.

INFANT INSURANCE.

To the Editor of THE LANCET.

SIR,—It is most sincerely to be hoped that the "Children's Bill," which contains so many useful provisions for preserving and improving child life, will not be allowed to suffer in the "massacre of the innocents" with a view to lighten this session's somewhat crowded programme. There is, moreover, one direction at least in which it seems most desirable that the Bill should be extended, inasmuch as it does not at present deal in any way with the existing system of infant insurance. The constant decline in the birth-rate affords undeniable evidence of decreasing appreciation of the value of children in the family circle. This accentuates the undesirability of permitting the insurance of infants whose parents are unable to prove an insurable interest in their lives. Infant insurance is practically universal among the wage-earning classes, fostered as it is by the large army of agents employed by rival industrial insurance companies; and having regard to the acknowledged waste of infant life owing to ignorance and neglect, it seems impossible to defend a system which provides payment of sums varying up to £6 on the death of a probably sickly infant which at the same time relieves the parents of the trouble and expense of the child's upbringing. The insurance of infants, except by their parents, is not permitted by the rules of most industrial insurance offices, but there is abundant evidence that these rules are not strictly observed. Mr. Robert J. Parr, director of the National Society for the Prevention of Cruelty to Children, when under examination by the committee appointed to consider the advisability of extending the provisions of the Infant Life Protection Act to one-child cases, gave evidence as to the well-known fact that baby-farmers very frequently succeed in insuring the lives of the infants committed to their charge. It is not necessary to suggest that any infants are deliberately "done to death" for the sake of insurance money in order to condemn the system of the insurance of infants as not being conducive to the increased personal care and attention necessary for the reduction of the present excess of infant mortality. The principal industrial insurance offices instruct their agents not to accept a proposal to insure an infant under the age of 14 days, and further that illegitimate children are not to be insured until they have attained the age of three years. Neither of these instructions is, however, strictly observed by insurance agents, since infants are constantly insured as soon as they are born, and insurances are very frequently effected and paid on the deaths of illegitimate children under three years of age. There is, on the whole, abundant ground for urgently desiring that a clause should be added to the "Children's Bill" in Committee restricting or prohibiting the insurance of any infant

Correspondence.

"Audi alteram partem."

THE EPIDEMIOLOGY OF DIPHTHERIA.

To the Editor of THE LANCET.

SIR,—Dr. L. W. Sambon's article on "The Epidemiology of Diphtheria in the Light of a possible Relationship between the Diphtheritic Affections of Man and those of the Lower Animals," which appeared in THE LANCET of April 18th, p. 1143, will not, I hope, be regarded as one of mere academic interest. To neglect to inquire into the truth or otherwise of his statements could only be regarded as a criminal disregard of warnings based upon facts put forward with a convincing accuracy and acumen that nothing but close scientific investigation can substantiate or refute. We are becoming so accustomed to hear of, and to be shown, the close inter-relationship between, and the intermutability of, diseases of men and animals that Dr. Sambon's contention comes as no surprise to us. Because there is no direct proof that diphtheria in the pigeon and other animals causes disease in man we are not justified in throwing the subject aside. Inductive and deductive arguments since the more materialistic forms of acquiring knowledge—viz., bacteriology, chemistry, and the microscope—came into more general use are apt to be slighted. We are inclined to judge at the present day by our senses only, whilst our reasoning is granted but little favour. Of course, there are theorists and theorists, but Dr. Sambon's theory, if so practical and convincing an argument as he presents can be styled a mere theory, is no fiction but a grouping of facts and an exposition of conclusions based on these facts arranged in logical sequence which must either be refuted or acted upon. There is no intermediate position and, as his facts are irrefutable, the brunt of the consequence likely to ensue by the neglect of these facts lies with those in authority who fail to act upon the evidence. The transmutability of diphtheria to men from animals has long been suspected and Dr. Sambon has shown how the epidemiology of diphtheria, which has hitherto been so obscure, may be explained. The fowl and the egg are incriminated in the process and it is interesting to note that the eastern counties of England where diphtheria in man is most common are the chief poultry-raising districts of Britain. It is to these counties, moreover, that the migratory pigeons mostly come. An interesting and original suggestion is the part played by eggs in the transmission of disease. I have myself noticed "blemishes" in the white of many eggs, mostly pink patches of delicate membrane, which I was wont to regard as signs of commencing embryonism. Recently, however, Professor Blanchard has shown that these patches contain a nematode worm (*Heterakis papillosa*). The explanation carries but little comfort to us, as we have hitherto regarded fresh eggs as being a food impossible of contamination by infection. Poultry and eggs as articles of diet require therefore to be inspected as carefully as beef, mutton, pork, and fish, and the proper place at which the inspection should be carried out is not in the market-place or shop but in the district in which the fowls are bred and reared. The fowl-house and the eggs must, if we are to act rationally, be legislated for as carefully as in the case of the cow and the milk when dealing with tuberculosis prophylaxis. Our supplies of fowls and eggs are largely derived from the south of Russia and from many districts around the Mediterranean, especially the north African shores. These supplies we cannot control hygienically but we can, and ought to, see that the sources of supply in Britain are wholesome and free from disease. It would be a great advantage commercially were our home poultry industry guaranteed to be sound, and it should be the endeavour of poultry farmers from a monetary point of view alone, leaving the health of the people out of the question, to have their farms placed under official inspection. The answer to this note of alarm is that fowls and eggs are cooked before being eaten and, therefore, there is no need for alarm. Assuming that all eggs are cooked before being consumed, which, of course, is not the case, we have still the fowl to deal with, and from the fowl other animals and man may be directly infected by one of the most terrible of our maladies. An inquiry is imperative if only to allay alarm; but from the immense number of facts recorded not only by Dr. Sambon but by many observers in several countries, it would only be in accordance with the proved relationship of the intermutability of other diseases between men and animals were it positively shown that the *phasianidæ* are the hosts of the diphtheritic poison which they not infrequently communicate to man. I am, Sir, yours faithfully,

London, April 27th, 1908. JAMES CANTLIE.

To the Editor of THE LANCET.

SIR,—I have read Dr. L. W. Sambon's communication in THE LANCET of April 18th, p. 1143, on the Epidemiology of Diphtheria with much interest and taking advantage of the quotation which heads your correspondence column I venture to offer a few remarks. Dr. Sambon says, "In an inquiry of this kind I should like to see the veterinary surgeon of the modern school take his full share of research work rather than adopt, as in the past, a negative hostile attitude which would be ridiculous in the face of the scanty and crude information at present available on the diphtheritic affections of animals." This, after an attempt to show that diphtheria is a disease of the lower animals, sounds as if the veterinary profession had studiously ignored the presence of diphtheria in the lower animals, although to Dr. Sambon the disease is so rampant that it is actually calling out to be diagnosed. In his efforts to show that diphtheria is common in the lower animals he quotes not only from a comedy of Plautus but even also from Numbers and it would appear that he would have the veterinary profession take its bacteriology and pathology from these sources. Because pigs suffered and died from very sore throats, according to Plautus, and the Israelites took quail that disagreed with them we are to believe that diphtheria existed in the lower animals. How easy it is to work up the history of disease when we see references which may have some bearing upon the subject and require only a little stretch of imagination to make them tally exactly with our preconceived notions. The historical references and most of Dr. Sambon's quotations will not bear inspection for a moment.

Before pointing out some of the errors in the article referred to I should like to inform Dr. Sambon that by diphtheria I understand an infection due to the ravages of the Klebs-Löffler bacillus, an organism that not infrequently leads a saprophytic existence and may be observed in the perfectly normal human fauces. The term diphtheria has unfortunately been used for conditions observed in the lower animals which are due to causes other than the Klebs-Löffler bacillus. Indeed, I think I am correct when I say that the cases observed in the lower animals directly traceable to the Klebs-Löffler bacillus may be counted on the fingers of one hand, and in these cases there is grave reason to believe that they were related to direct infection from a human source. Of course, I shall be at once consigned to the old school of veterinarians by Dr. Sambon for such an opinion, but then those of us who spend our days making post-mortem examinations and working with the pathological material obtained from the lower animals can only preach the faith that is in us and take facts as we find them. I quite agree with the opinion expressed by Friedberger and Fröhner (which Dr. Sambon quotes) relating to the transmission of diphtheria from animals to man—i.e., animal diphtheria is "a mere assumption due to ignorance of veterinary pathology." Let us examine the evidence the writer has brought forward in support of his contention that the lower animals do suffer from unrecognised diphtheria. The only evidence that is worth consideration is that given by men who are in a position to give an opinion. What Noah Webster thought in 1800 and what many of the writers of reports to the Local Government Board of later date believe may be dismissed in a word. Their opinions are framed on hearsay evidence or on incomplete clinical records. In many cases the conclusions savour of the *post hoc, ergo propter hoc.*

Dr. Sambon says diphtheria is known to occur in the horse. The only case which needs reference is that of Dr. Louis Cobbett where was found in the nasal discharge the Klebs-Löffler bacillus. This does not prove, however, that the horse was suffering from diphtheria despite the fact that the daughter of the owner had diphtheria and it would have been interesting to learn what condition was found on post mortem if the animal died. I do not think we need be surprised to find the Klebs-Löffler organism in the discharges from the horse's head, nor can we claim that its presence signifies in this case diphtheria because the organism may be found in throats free from any lesion whatsoever. In this case the lesions observed would be more valuable than the discovery of a particular organism. Then in cattle Dr.

The anæsthetics up to quite recent years were invariably given by the dressers in the eye wards, none of whom had much previous experience; indeed, many of them gave an anæsthetic for the first time under my supervision. *Out of the whole number there was but one death, that of a patient suffering from exophthalmic goitre.* The anæsthetics chiefly used were in the early years bichloride of methylene and chloroform, but occasionally a new one was given a trial. Later A.C.E. mixture became the mainstay in the eye wards and continued to be up to the end of my time. My experience seems to show that deaths from anæsthetics *per se* are extremely rare and that those which, according to the coroners, are so frequent are due to other causes, and the less said about them in this connexion the better, especially if, as Dr. Silk says, the reports get into the lay press. In the interests of the public, who are already quite nervous enough about anæsthesia, the coroners, who can have no practical experience of the administration of anæsthetics, would do well to lay to heart two old proverbs: (1) That the cobbler should stick to his last; (2) That to speak is silver but silence is gold.—I am, Sir, yours faithfully,

CHARLES HIGGENS, F.R.C.S. Eng.
Consulting Ophthalmic Surgeon to Guy's Hospital.
Brook-street, W., April 10th, 1908.

To the Editor of THE LANCET.

SIR,—A letter appeared from Mr. Coroner F. J. Waldo of London in the Dublin *Evening Mail* of about 14 days ago in which he commented on the very few fatalities from chloroform which were reported from Ireland as compared with London. A somewhat similar state of affairs prevails with regard to Scotland, but Dr. Waldo suggests as an explanation that either Dublin hospital surgeons do not report chloroform fatalities or the Dublin coroner refuses to hold inquests thereon. As this theory implies a grave imputation it is right to say that as a member of the corporation inspection committee of the Dublin hospitals such a complaint has never been made to us regarding any of the surgeons, and such a complaint concerning the coroner has never been made to the Public Health Committee whilst I have been a member of it. It is fairly certain then that Dr. Waldo's conjecture is baseless as regards Dublin.

I am, Sir, yours faithfully,
J. C. MCWALTER, M.A. R.U.I., M.D. Brux.,
Dublin, April 25th, 1908. F.F.P. & S. Glasg.

WORTH'S ADVANCEMENT OPERATION.

To the Editor of THE LANCET.

SIR,—In a notice of Colonel Maynard's excellent book on "Ophthalmic Operations" in THE LANCET of April 25th, p. 1216, the reviewer expresses the opinion that my advancement operation is "founded upon a fallacy and practical experience shows that it possesses notable disadvantages." Whose "practical experience"? I think that I may claim to have performed more advancement operations than most ophthalmic surgeons and I have used this operation exclusively during the last dozen years. I know from published accounts and private correspondence that this operation is used habitually by many of the most skilful operators both in this country and abroad. Its advantages are many. Its one disadvantage is that the stitches are not quite so easily removed as in some other operations. I do not for a moment suggest that your reviewer was actuated by personal motives when he went out of his way to make this remarkable statement. But I do respectfully suggest that such a statement should not have been made anonymously or without giving reasons.

I am, Sir, yours faithfully,
Harley-street, W., April 27th, 1908. CLAUD WORTH.

THE INHALATION TREATMENT OF CONSUMPTION AND "CATARRH."

To the Editor of THE LANCET.

SIR,—I have read with great interest Dr. Ash's remarks that appeared in THE LANCET of April 25th, p. 1236, on the inhalation treatment of consumption. For many years I have advocated the inhalation method as an important aid in the treatment of pulmonary and laryngeal tuberculosis. It is quite true that the inhalation of volatile substances produced by the ordinary respirators, mouth inhalers, and sprays is not satisfactory, as it cannot reach far enough down the lungs to be of any real service in the arrest of consumption. Two conditions are necessary for any inhaler to be efficacious: (1) the inhaler should cover the mouth and nose; and (2) it must be continuously used for as many hours as possible. The anatomical structure of the lungs lends itself peculiarly to antiseptic treatment. For some years I have been using among my patients an oro-nasal inhaler containing a mixture of formalin, chloroform, and rectified spirit, with a few drops of oil of pine or eucalyptus. The advantage of this method is that the patient can use it walking out of doors or reading, writing, or otherwise employed indoors. The success, as Dr. Ash pointed out, depends upon its continuous use, at least from four to six hours a day. Another good method mentioned by Dr. Ash is that of impregnating a chamber with volatile antiseptic substances. I use the patient's room as an inhalation chamber in preference to a special inhalation room, and have devised a vapouriser in which one or two formalin tablets with a little menthol are volatilised, the room being made more or less air-tight by shutting the doors and windows. The advantage of this method is that for hours the room is charged with formalin vapour, enabling the patient to inhale the impregnated air and rendering his clothes and his belongings in the room aseptic. The patient can use both these methods in a sanatorium or in his own house. My experience is that perseverance often results in success. But the trouble is that patients will not persevere long enough. I am, Sir, yours faithfully,

Mendip Hills Sanatorium, Wilts. C. MUTHU.

THE ROYAL DENTAL HOSPITAL: A SPECIAL APPEAL.

To the Editor of THE LANCET.

SIR,—The Royal Dental Hospital has now been established 50 years during which time an incalculable amount of suffering has been relieved and many serious illnesses averted by timely attention to the teeth of the poorer classes.

The committee of management wishes to celebrate the jubilee by making a special appeal to extinguish the debt on the building which so seriously cripples the funds of the charity. This debt was sanctioned by the Charity Commissioners and entailed a yearly payment to the mortgagees of £2,975 17*s.* 4*d.* for 30 years from 1902, of which 24 years are yet unexpired. There now remains £47,404 1*s.* 7*d.* to be paid to wipe off the debt altogether, and it is for contributions, however small, towards this sum for which the committee now appeals. This would mean a saving in the 24 years of about £33,000 in interest alone, and the money thus set free would be devoted to maintaining the hospital in a much greater state of efficiency than it is at present. It is within the knowledge of everyone that the teeth of the majority of the poorer classes are in a deplorable condition, and that a great number of the children require long and expensive treatment to save them from life-long disfigurement and inconvenience. This they can only obtain at a dental hospital. Over 100,000 operations were performed here last year, half of which were under anæsthetics.

The Royal Dental Hospital should command universal sympathy and support, not only for the benefits it has conferred on its own patients but also because it was the first dental hospital established in England, and from it all skilled dentistry in this country has developed, thus adding to the health, comfort, convenience, and happiness of all classes of the community. About 1200 students have been educated in the hospital and school. After 50 years of hard work it is earnestly hoped that this truly national institution may be freed in this, its jubilee year, from the burden of debt under which it is still struggling.

Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., consulting surgeon to the hospital, has kindly consented to preside at a festival dinner to be held at the Hotel Cecil on June 25th in aid of the "Special Appeal Fund." Contributions may be sent to the secretary of the hospital.

We have the honour to remain,
Your obedient servants,
ROTHSCHILD, President.
KINNAIRD
F. A. BEVAN (Treasurer) } Trustees.
RICHARD WINCH
JOHN H. HALE, Chairman

Royal Dental Hospital, 32, Leicester-square,
London, W.C., April 23rd, 1908.

under the age of, say, three years without the production of proof of actual and distinct insurable interest.

I am, Sir, yours faithfully,
April 27th, 1908. PRO PATRIA.

CORONERS' INQUESTS UPON DEATHS DURING SURGICAL ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 25th, p. 1234, Dr. David Walsh has replied to my criticism of Dr. F. J. Waldo's article upon this subject which was published in THE LANCET of April 11th, p. 1106, and to his remarks I desire to offer the following observations and suggestions. In my letter I gave the exact statistics of the death-rate which the medical profession has found to be incurred by the administration of chloroform, ether, and mixtures of these two anæsthetics. These have been obtained from the records of over 1,000,000 administrations tabulated by Dr. F. W. Hewitt in his classical work on "Anæsthetics and their Administration" (third edition, 1907, p. 148). The medical profession has never expected to obtain any such information as this from the Registrar-General's reports, not only because they are imperfect from many causes, but for the reason that a figure giving only a certain number of *fatalities each year without the number of administrations* undertaken yields no material for calculating a death-rate from anæsthetics. The number of deaths under anæsthetics which occur in private practice yearly, even if published with the total number of administrations, would, according to Dr. Waldo's own showing, probably largely reduce the calculated death-rate given in my letter, and the reason for this would be that the vast majority of cases of advanced disease and severe injuries are treated by operation in the hospitals and not in private practice.

In the year 1896 the number of operations performed under anæsthetics in the operating theatre at one of the large general hospitals in London was 353; the number in 1905 was 1055. This is a very fair criterion of the enormous increase which has taken place in the number of hospital operations during the last ten years, and if the actual number of fatalities recorded by the Registrar-General for the ten years 1886–1895 was 533 and for the ten years 1895–1905 was 1269 (as given by Dr. A. D. Waller in "Science Progress," No. 8, April, 1908) the death-rate in anæsthesia has decreased in the ten years most markedly, for the proportionate increase in operations under anæsthetics is represented by the figure 3 and of deaths by only 2·38. In view of these facts there is no evidence that an increased *number* of fatalities is any measure of the risks of anæsthesia.

Dr. Waldo states that "the medical man is not compelled by any statutory obligation to report cases of death under anæsthesia to the coroner," and "in a proportion of cases which it is impossible to estimate inquests are not held by coroners upon deaths reported to them as having occurred under anæsthesia." I venture to hold the view that their discretion in this matter shows an excellent fitness for their office because (1) the reports of such inquests furnished to the Registrar-General are useless either for statistical purposes or the advance of scientific knowledge; (2) press reports of such inquests tend to increase the mortality in anæsthesia by causing unjustifiable alarm at the risk of anæsthesia in the minds of patients who are obliged to undergo operation; and (3) the public pillory of a registered medical man involved in giving evidence at such inquests who in administering an anæsthetic to the best of his ability takes every human measure to steer his patient safely through the operation causes an unfair damage to his reputation and practice which ultimately tends to make him *refuse* to administer an anæsthetic at all in desperate cases requiring operation, where his skilled help is most needed.

Let us see what the law with regard to death certification requires to protect the public from violent or unnatural deaths which would be otherwise undetected. It invokes a declaration on the part of a member of the medical profession as to the cause of death, but he is not necessarily bound to have witnessed the death. In the case of death occurring during surgical anæsthesia not only one but in almost every case two registered medical men actually present at the death can state the proper cause of death and put it upon record. The plain fact is that there can be no more need for the judgment of a coroner and jury of laymen in cases of death during anæsthesia than in those of death following after a surgical operation; both may occur under medical care and skilled attendance and can be definitely certified as to cause by two or more medical witnesses. I venture to suggest that the Coroners' Society should reconsider the question on the basis of this proposal—namely, that a death during surgical anæsthesia be considered amply accounted for by a certificate signed by two legally qualified medical practitioners, without the holding of a public inquest unless the patient's relations or those intimately concerned in the operation express some reasonable ground for dissatisfaction.

With regard to the inclination shown to desire hospital authorities to employ specialists to give the anæsthetics, there is no large London hospital without a number of skilled administrators of anæsthetics upon its staff, but it would be as reasonable to expect that a real expert can be found available to administer every anæsthetic at these institutions both by day and night as it would be to demand that the Government should only employ Royal Academicians to paint the park railings. For instance, if it were to be held that the hospital house surgeons and house physicians, who are in every case without exception fully qualified practitioners and usually are also fresh from skilled instruction in anæsthetics, were not competent persons to administer anæsthetics in the hospitals, what heaven-sent inspiration can make them more so on the day after they leave these posts and administer chloroform to their first patient in private practice? The argument could not be sustained that a registered medical man is not legally qualified to administer an anæsthetic, and any attempt to go behind his qualification in individual instances and inquire into the duration of his experience in public cannot be for the public good nor increase the safety of the public when entrusted to his care.

If some coroners, whose office unfortunately tends to make them reflect only upon the fatalities and not upon the millions of successful anæsthetic administrations, have begun to think that the teaching and opportunities for supervised practice in anæsthetic administration at the hospitals by the medical student *before* he goes up for his qualifying examinations are not as extensive as they might be, I would suggest that through the Coroners' Society they might lend most valuable assistance in supporting the memorial forthwith to be presented to the General Medical Council by the Medico-Legal Society asking for a definite enforced training in anæsthetics to be included in the student's curriculum for all medical qualifying examinations in the United Kingdom which will, if adopted, have the effect of raising the standard of skill in anæsthetic administration to be possessed by the rank and file of the medical profession.

I am, Sir, yours faithfully,
H. BELLAMY GARDNER, M.R.C.S. Eng., L.R.C.P. Lond.,
Late Anæsthetist and Instructor in Anæsthetics at Charing Cross Hospital, &c.
Harley-street, W., April 27th, 1908.

To the Editor of THE LANCET.

SIR,—I have read Dr. J. F. W. Silk's letter in your issue of April 4th and most thoroughly agree with the opinions he expresses. I wish to call special attention to statement No. 2, "In the majority of cases referred to by the coroners the primary cause of death was the nature of the accident or disease from which the patient was suffering and very remotely the anæsthetic." I think the result of my 33 years' experience in the eye department at Guy's Hospital goes far to show the correctness of this statement. With the exception of two cases of ligature of the common carotid, three or four of removal of the superior maxilla, two of trephining, eight of opening of the frontal sinuses, several for removal of orbital tumours, and a number of plastic operations on the eyelids and face taking half an hour or more for their performance, there were none in which the nature of the operation could by any chance have led to a fatal termination.

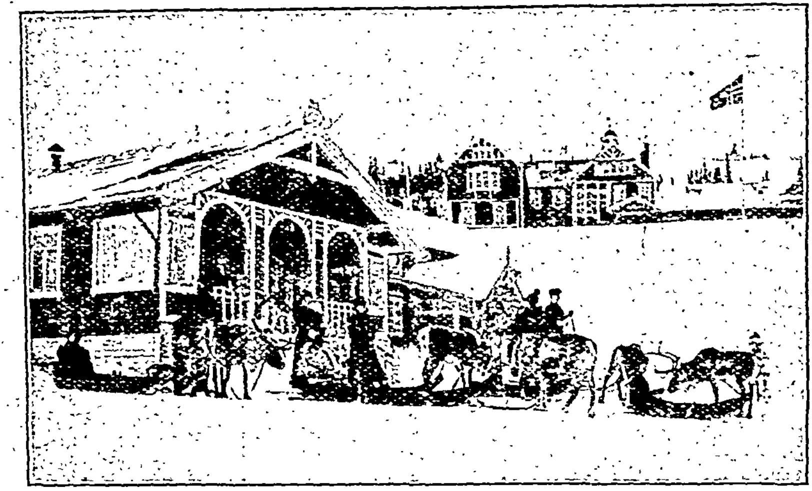
For nearly 12 years (1873 to 1885) my operations, with a very few exceptions, were performed under general anæsthesia. At the beginning of 1885 I began to use cocaine but not universally, for at first I did not believe in it and proceeded with caution; it seemed almost too good to be true. Later it to a great extent displaced general anæsthesia but by no means entirely so. I think, speaking off the book, that a very fair average of anæsthetic administrations for the 33 years would be not less than 300 a year, giving a total of nearly 10,000, a large majority of which took place during the first 12 years, during ten of which I was associated with the late Mr. Bader, and we used between us to do close on a thousand operations in the year (in one year I remember it was considerably over that number).

February of this year your Commissioner has been very much impressed with the natural advantages which Norway offers for the establishment of winter health resorts.

THE BENEFITS OF WINTER SPORT.

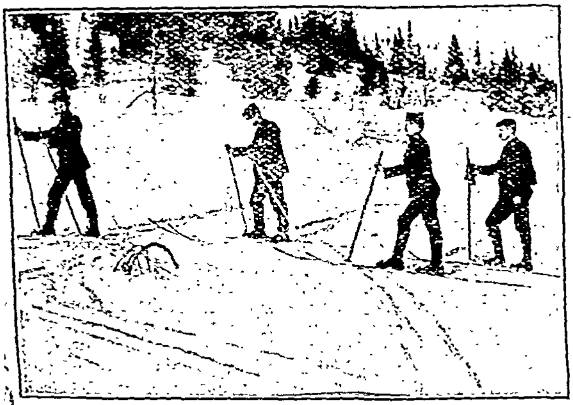
It is only of recent years that Englishmen have begun to realise the benefits of wisely directed winter sports, not only as a means for refreshing the mind but renewing the body. During recent years large numbers of town dwellers and brain-workers have snatched a few weeks for a midwinter holiday amidst the snow and ice of Switzerland. The prophylactic virtues of a winter's holiday can now be attested by many. For those desirous of breaking new ground or of enjoying opportunities for winter sports, such as reindeer sleighing (Fig. 2), Norway may be recommended as affording endless opportunities for exploration. Within the limitation of a short article it is impossible to describe adequately the fascination and charm exercised by the outdoor life and active pursuits as practised by the Norwegians. All, from the King and Queen and little Prince Olaf to the tiniest country beggar, seems to be most at home when tobogganing or ski-ing. Girls and women are keen enthusiasts for winter sports and certainly these rational forms of exercise are doing much for the development of the youth of the nation. The co-education of the sexes is thereby encouraged under the healthiest and happiest conditions. For many pampered, self-centred, delicate English children I can imagine nothing more beneficial than a winter in Norway.

FIG. 2.



Reindeer driving at mountain hotel, Trondhjem.

FIG. 3.

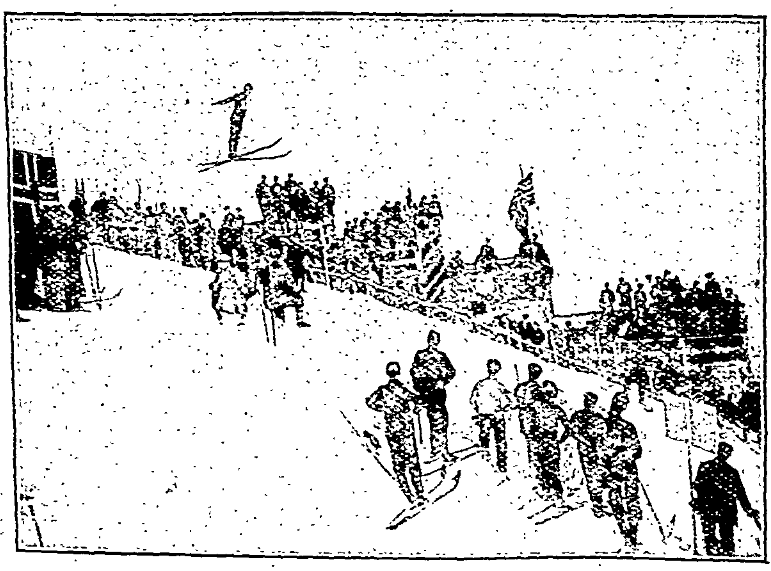


Ski-touring.

If a personal reference may be permitted as evidence of the prophylactic powers of Norwegian residence, your Commissioner may note that this is the first season for many years that he has succeeded in resisting invasion by influenza. Perhaps some annual victims of *la grippe* might consider a voyage across the North Sea, however rough, a welcome means whereby to escape an inveterate enemy.

Almost all forms of winter sports may generally be enjoyed in and about Christiania, although in up-country resorts ski-ing and some other forms may usually be had in greater fulness and extent. Ski-ing on the high mountains is a form of mental and physical enjoyment known only to Scandinavians. Winter touring on skis exercises a fascination for the young and vigorous and is an admirable means for developing nerve and muscle and character.[6] (Figs. 3 and 4.)

FIG. 4.



Ski-jumping.

---

[6] Captain Carl Roll has written an attractive, informing, and well illustrated booklet in English on "Winter Sport," which may be obtained from the Norwegian Tourist Traffic Association, 2, Storthingsgaden, Christiania. "The Winter Sports Annual, 1907-8," edited by E. Wroughton (London: Simpkin, Marshall, and Co. 1907. Price 2s.), contains much useful information respecting routes and fares to Norway and its chief sporting centres.

NOTES UPON HEALTH RESORTS.

SCANDINAVIAN WINTER HEALTH STATIONS.

(BY A SPECIAL COMMISSIONER.)

II.[1]

NORWAY'S WINTER HEALTH RESORTS.

NORWAY is well known to many as a land particularly rich in opportunities for the holiday maker and offering varied facilities for the sportsman. But its claims to be counted among the chief of European countries on account of its health resorts have not been duly recognised either in this or other lands. The fact is Norwegians themselves have only within recent years realised the possibilities of their homeland for the establishment of all-the-year-round health stations. The natural characteristics are eminently suitable but hitherto enterprise has been lacking in the opening up of the country and the provision of suitable residential establishments for visitors. The smallness of the native population and the somewhat isolated position of Norway have no doubt been in great measure responsible for the delay in the development of health centres. Now that Switzerland is being overrun with trippers of all nations it is but rational and reasonable that many should be desirous of seeking places where all the health advantages of "the playground of Europe" may be obtained without the increasing discomforts of overcrowded hotels and the disadvantage of fashionable and sports-loving manners of life. To all lovers of the simple hygienic life and to those requiring excellent climatic conditions for the winning back of health and the recuperation of strength Norway is likely to appeal more and more as its benefits become better known.[2]

A movement is now taking place in Norway which promises to make the country better known to Norwegians themselves and its many advantages realised by other countries.[3] Hitherto physicians have been slow to realise the nature of the climatic conditions prevailing in this land and the many advantages which they offer for the health seeker.

While the fjords of the west coast are best known to the ordinary tourist they by no means offer the finest climate for the health seeker. This, generally speaking, is to be obtained on the highlands and in the wide and open valleys in the inland districts, such as Valdres, Gausdal, and Gudbrandsdal. The new line between Bergen and Christiania opens up a country which should in the near future become extensively developed as centres for excellent health stations. The suggested extension of the railway from Otta to Trondhjem over the Dovrefjeld should also lead to the establishment of many desirable new health resorts.

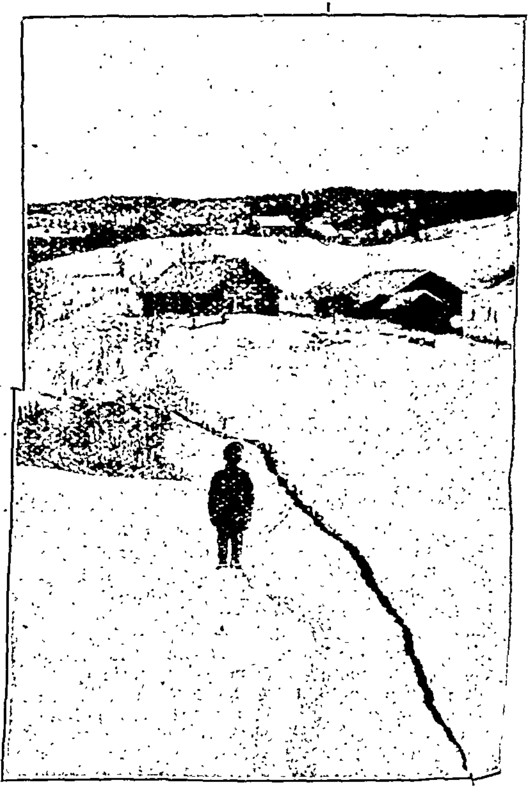
From a health standpoint the mountain climates of Norway are of particular benefit. They can be conveniently divided into (1) the high altitude or alpine climate, or as it has been well termed locally the "Hoifjeld" region, commencing at between 2500 and 3000 feet above sea level; and (2) the medium altitude, or subalpine climate, or "Hoilids" region, 1500 to 2500 feet above sea level.[4]

For some cases the valley and lowland districts offer special advantages and in summer the coast climate, in the south especially, is excellent.[5]

WINTER CLIMATIC CONDITIONS.

As it is proposed to restrict consideration to what are essentially the winter health resorts of Norway, a few words on the climatic conditions prevailing during the winter season will not be out of place. Most erroneous impressions exist in many quarters as to the nature of the weather and the manner of life existing in Norway during this time of the year, when it can offer but little evidence for its claim to be called the "Land of the Midnight Sun." Over a great part of the country snow lies from November or at all events from well before Christmas to March or on the uplands till as late as Easter. (Fig. 1.) Thus for some four or more months winter sports may be enjoyed in all their fulness and variety. Although the early mornings are dark and the nights long, the difference from England is not conspicuous except in the very northerly parts. In most of what may be called the health resort districts the winter characteristics are excellent. These are particularly noticeable in the Norwegian Highlands. Here the air is dry, clear, rarefied, and the barometric pressure low. Although keen frost may prevail the cold is but little felt and when one is wrapped up in furs causes no discomfort. In sheltered snow-covered districts but little wind is experienced. tensive forests often afford admirable protection. M more sunlight prevails than we are accustomed to in clo covered England and its luminous and actinic effects seem exercise considerable beneficial influence on many patien But little rain falls except in the west and sea-coa districts.

FIG. 1.



Winter in Norway: a ski track.

The snow descends usually in special "falls" and the lar being thus protected all dust is avoided and by reflectic the effects of the sun-light are increased and intensifie Fogs in the highland districts are rare and never produc those depressing and irritating effects which we know so we home. The air is also said to be rich in ozone an qualities. In the greater part of the country th dry and hygienically favourable.

…ed greater part of th of January anc

---

[1] No. I. was published in THE LANCET of April 25th, p. 1238.

[2] Dr. P. A. M. Mellbye of Christiania, with whom I discussed the question of Norwegian health stations, has published a useful reference work on the subject, "Norges Kursteder og deres Kurmidler" (Alb. Cammermeyers Forlag, Kristiania), with helpful map marking the chief "kursteder." It is to be hoped that an English edition of this informing manual may soon be available.

[3] The Norwegian Tourist Traffic Association (Forening for Reiselivet i Norge), 2, Storthingsgaden, Christiania, under the able and enterprising direction of Mr. H. Malling, to whom your Commissioner is indebted for much kindness and information, is doing much for the opening up of Norway. The association publishes a useful "List of Hotels, Sanatoria, and Skyds Stations" and all visitors to Norway would do well to avail themselves of the publications and assistance of this valuable organisation.

[4] *For much valuable* information regarding climatic meteorological data see "Norway as a Winter and Resort," by Dr. A. Magelssen. *English edition,* John Sörensen of Tofte Sanatorium.

[5] Prospective visitors to Norwa interesting and informing Year Strand, W.C.

who had had the rare good fortune to be assistants to Professor Cleland. They made the presentation as a token of their gratitude and admiration for Professor Cleland. He had been to them their great master. He had in a profound manner influenced the lives for good of all who had come into association with him and he had ever held up before them an ideal of science viewed from the purest and loftiest aspect, and he had also taught them to seek for truth and beauty at one and the same source. The museum had been entirely the work of Professor Cleland and it was fitting that within the building there should be a memorial of him who created it.

Hospital for Skin Diseases, Glasgow.

At the annual meeting of subscribers to this hospital regret was expressed at the loss sustained by the hospital in the death of Sir Thomas McCall Anderson, to whose distinguished services since its foundation the hospital owed its success and fame. During the past year 1915 new cases were admitted and 83 cases were treated in the wards of the Western Infirmary connected with the hospital. Since the foundation of the hospital in 1861 63,411 patients have received outdoor treatment, and since the opening of the Western Infirmary 33 years ago 3208 patients have benefited by indoor treatment. 89 students attended the clinique during the summer session.

Braemar Parish Council: Medical Officership.

The Crathie and Braemar parish council met on April 21st when the question of the medical officership was again under discussion. It is understood that several applications for the vacant post were received. After discussion it was agreed that no appointment should be made meantime but that a subcommittee of three members should be appointed to endeavour to get a suitable man to apply. The present medical officer's appointment expires on April 30th, so that in all probability the parish will be without a fund medical officer and consequently will lose the medical relief grant.

Death of Miss Rachel Lumsden, Aberdeen.

The death occurred at Aberdeen on April 22nd of Miss Rachel Frances Lumsden, formerly superintendent of the Royal Infirmary of Aberdeen. Miss Lumsden, who belonged to a well-known Aberdeenshire family, received her training in London. In 1877 she was appointed honorary superintendent of the newly established Hospital for Sick Children in Aberdeen and with such conspicuous success did she carry out the duties of this post that when in 1885 she offered to undertake the office of superintendent of the Royal Infirmary at a critical period in its history great satisfaction was everywhere expressed. Her services at both these institutions were rendered without fee or reward of any kind. Under her management the nursing became entirely reorganised. In 1897 when she retired after 12 years' service she was the recipient of an address engrossed in a beautiful album and signed by all the gentlemen in the medical profession in Aberdeen connected with the University, the infirmary, Sick Children's Hospital, and other public charities. Miss Lumsden was appointed by the late Queen Victoria a member of the council of the Scottish Board of the Queen Victoria Jubilee Institute of Nurses. She was also one of the leading members of the Royal British Nurses' Association, and the first lady to organise a Scottish hospital on the English system of admitting probationers for a three years' training under the direction of sisters.

April 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish University Bill.

Mr. Birrell's University proposals have excited very considerable interest in Cork and the South of Ireland generally. When the text of the Bill was published several letters appeared in the local press criticising the provisions of the measure as they affect the Cork Queen's College. It was pointed out that from Mr. Birrell's explanatory statement it appeared that a special grant of £10,000 would be given to the Cork College but that in reality such was not the case as professors' pensions and the cost of maintaining the buildings, &c., which are now defrayed out of Parliamentary grants, would in future be provided for out of College funds, that in fact the Treasury proposed giving with one hand and taking away with the other. Stress was also laid on the evils of a federal university, a system which has been tried and found wanting in England. Attention, too, was specially directed to the advantages which Dublin students have at the Royal University over all others owing to their being in touch with the examiners, and it was urged that the establishment of a university for Munster would be the only means of getting rid of that difficulty. Accordingly several public bodies pronounced in favour of a separate university for the South of Ireland. The Cork town council and the Cork board of guardians passed unanimously propositions urging the Government to convert the Cork Queen's College into a university. The Lord Mayor of Cork and the chairman of the Cork county council summoned a meeting of the people of Munster to discuss the provisions of the Bill and on Saturday last a very large and particularly representative meeting was held in the City Hall, presided over by the Earl of Bandon, His Majesty's Lieutenant of the county of Cork. The first speaker was Mr. William O'Brien, M.P., who recently offered £50,000 towards the establishment of a university in Cork. In the course of an eloquent address he expressed the conviction that a university in Cork would alone meet the educational requirements of the people of the South of Ireland, but he felt convinced that there is no chance of engrafting such a proposal in the present Bill though later a university was sure to come. Accordingly, he recommended that the Bill should not be wrecked but that an endeavour should be made in Committee to improve it as far as the Cork Queen's College is concerned. He then proposed a motion that no settlement of the university question could be regarded as final which did not provide for the establishment of a university for Munster. The motion was seconded and carried with acclamation.—The Committee on Public Questions, Rights, and Privileges, composed of ministers and laymen representing the Methodist Church in Ireland, has published a series of resolutions protesting against Mr. Birrell's University Bill on the grounds of its endowing denominational universities, because of its curtailment of the privileges enjoyed by Methodists in the Royal University in depriving them of adequate representation on the Senate, and because of its doing away with extern students. The committee has asked the Chief Secretary to receive a deputation to hear from it more fully the views of the Methodist Church in Ireland on the university question.

The Re-foresting of Ireland.

It is a remarkable fact that Ireland, which was in olden time known as "the Isle of the Woods," is now the least wooded of all north-western countries, with the single exception of Iceland. The report of the forestry committee appointed by the Department of Agriculture has just been published and shows that while Austria leads off with a 32 per cent. surface of forest cover, and Denmark—a purely agricultural country—presents 7 per cent., England has 5·3 and Scotland no less than 4·6; while the ragged remnant of its forest foliage covers but 1·5 per cent. of the surface of Ireland. The question of re-foresting has now been vigorously opened. It has received the favourable attention of their Excellencies the Earl and Countess of Aberdeen and Mr. Charles Dawson, a former Lord Mayor of Dublin, is an enthusiast in the movement. It is claimed that the presence of forests has a beneficial effect on climate and, further, that on the elevated portions of the country's surface the very existence of the soil depends on their presence, without which the process of weathering never fails to lay bare in time the skeleton rock. The advocates of the movement further hope that it may lead to the establishment of a substantial timber industry and promote in other ways the health and wealth of the country.

School Attendance in Dublin.

There has been a marked irregularity in school attendance by the Dublin children recently. The unusually cold weather had undoubtedly something to answer for; so had the recent return of the "spotted fever" scare. It has also been urged that the school rolls do not adequately represent the school-going age of the section of the population in question. The fact has, however, come to the surface that there is an approximate average absence from school every day of one in four of the children enrolled. This represents a daily item of 11,000 non-attendances. The report of the school attendance committees for 1907 states that the inspectors might accomplish their mission if the occupiers of the

WALES AND WESTERN COUNTIES NOTES.

(From our own Correspondents.)

Diphtheria in Holywell.

At the last meeting of the Holywell (Flintshire) rural district council Mr. James Williams, one of the medical officers of health, called attention to the large amount of sickness among school children and said that a great deal of it was due to imperfect scavenging and to the large accumulations of filth at many of the houses. The conditions which he had found were a disgrace to the owners, to the occupiers, and to the sanitary authority. At a previous meeting, when eight cases of diphtheria were reported upon as having been notified during the month of March, the district council sought to minimise the seriousness of the outbreak by reflecting upon the *bona fides* of the medical practitioners who certified the cases, one member of the council remarking that "if a person had a sore-throat it was diphtheria right away; the mistake was the half-crown notification fee." It is a pity that the difficulties which sanitary officials have to contend with when endeavouring to check an outbreak of infectious disease should be increased by the passive opposition of the very persons who ought to render assistance. It is indifference of such bodies as the Holywell rural district council which made it possible for Sir John Dickson Poynder's Committee to recommend the transference of certain administrative powers to the county councils.

Infantile Mortality in Newport.

As the result of a conference recently held at the Newport (Mon.) town hall it has been decided to form a ladies' public health society upon the lines of the organisation which has for many years done such good work in Manchester. The primary object of the newly formed society is to coöperate with the sanitary committee of the corporation in its attempt to lessen the amount of infantile mortality in the borough. A female health visitor has been employed by the committee for more than five years and in his last annual report the medical officer of health (Dr. J. Howard-Jones) pointed out that the substantial reduction in the infantile mortality rate during the previous five years ought to encourage the corporation to take still further action in instituting preventive measures. At the conference referred to it was decided to establish a fund for the purpose of providing proper nourishment for expectant mothers who were not qualified to receive Poor-law relief.

Medical Inspection of School Children.

The Gloucestershire county council has appointed Dr. J. Middleton Martin as a whole-time medical officer of health and to undertake, with assistance, the medical inspection of the school children in the county. The Carmarthen town council has appointed Mr. L. M. Bowen-Jones, the medical officer of health of the borough, as medical inspector of school children. There will be about 600 children to be inspected each year and the payment proposed to be made is at the rate of 1*s*. for each child. A suggestion was unsuccessfully made that the payment should be 2*s*. per head, while a proposal that it should be 6*d*. met with but scant support.

The Notification of Whooping-cough.

There are so few districts in which whooping-cough has been continuously notifiable that the results obtained are always of interest. The disease has been included in the list of diseases notified in the rural district of Llandaff and Dinas Powis since the adoption of the Infectious Disease (Notification) Act in 1890. There were notified last year 186 cases, and six children, all under eight months old, died. Dr. Richard Prichard, the medical officer of health, in his annual report suggests that the council should consider the desirability of utilising some part of the newly erected isolation hospital for the purpose of isolating patients suffering from whooping-cough. Unless some such course as this is taken he considers that he would not be justified in recommending the continuance of the disease among those compulsorily to be notified. It would be a pity if any precipitate action were taken in this direction, for even without the means of isolating patients much good can be done by the timely visits of an inspector and especially if the inspector is a woman. The case mortality from whooping-cough in the rural district in 1907 was 3·2 per cent. and in the preceding ten years it was 5 per cent.

April 21st.

SCOTLAND.

(From our own Correspondents.)

The McAlpin Nursing Home, Glasgow.

The new buildings in connexion with the McAlpin Nursing Home were formally opened last week by Lord Inverclyde. This marks a new epoch in the history of nursing homes in Glasgow. The home was first started in 1874 in a humble way. It was the pioneer nursing home in Glasgow and led the way to an immense improvement in the housing and treatment of private patients, especially those who had to come from the country to undergo an operation. From its inception this institution has done a great deal of charitable work, over one-third of the patients, it is stated, being treated at considerably less than cost. Although the home has recently been incorporated no part of the income can be paid away in dividends. Any surplus accruing is to be expended on reducing the fees to those charged less than the cost of their board and nursing and in extending the institution. The new building has been specially designed and constructed for the purpose of a nursing home and contains accommodation for 24 patients in single and private rooms, six in double rooms, and two wards of six beds each. All the principal private rooms have a southern exposure and each one is provided with a separate outside balcony. The operating theatre is fitted up on the most modern lines and the building is fire-proof throughout.

The University of Glasgow "Commemoration Day."

A most interesting and attractive gathering took place at Gilmorehill on April 24th, when the University celebrated its Commemoration Day. Not only did graduates from all parts of the country return to pay homage to their *alma mater* but representatives from sister universities and from the town council were also present and helped to make the assembly a representative one. After Principal MacAlister had read the commemorative preface an oration was delivered by Professor Gray on Lord Kelvin, the late Chancellor of the University. Thereafter honorary degrees were conferred by the Vice-Chancellor. Colonel David Bruce *in absentiâ* received the degree of LL.D. for his researches in connexion with Malta fever, tsetse fly disease, and sleeping sickness. The same degree was conferred upon Dr. J. C. McVail, who for the past 18 years has been medical officer of health of the counties of Stirling and Dumbarton. In the evening the commemorative dinner was held in the Bute Hall. It was attended by over 200 ladies and gentlemen. The principal guests of the evening were the honorary graduates of the day.

Honour to Glasgow Professors.

Last week an interesting presentation took place to Dr. J. G. McKendrick, late Professor of Physiology at the University of Glasgow. It consisted of a portrait for the University by Mr. J. H. Lorimer, R S.A., a sum of £450 for the equipment of the Laboratory of Experimental Psychology in the new physiological buildings, and a silver tray as a personal souvenir. The portrait and the tray had suitable inscriptions. The movement originated a year ago in the business committee of the general council, which thought that a mark of respect should be paid to the Professor of Physiology on the occasion of his retirement. In his reply Dr. McKendrick referred to the 30 years of his professorship in Glasgow, during which time more than 4000 students had passed through his hands. Since 1876, when he became professor, something like £17,000, in addition to the sum expended on new laboratories, probably amounting to £20,000 more, had been contributed for the physiology department. The result of this was that the dream of his life had been fulfilled. Referring to the recently established lectureship of Experimental Psychology Dr. McKendrick said that was a subject in which he had always been interested. This lectureship was intended to deal with the investigation by physical methods, so far as it was possible to apply them, of the action of the organs of sense, the nervous processes in general, and of the nervous processes in connexion with sensation, perception, emotion, choice, and even certain mental acts. As a subject experimental physiology and psychology lay between physiology and psychology connecting one with the other. Another interesting presentation was made to the University by Principal J. Yule Mackay. This consisted of a bronze medallion of the head of Professor Cleland, to be preserved permanently in the anatomical museum of the University. He made the gift, he said, on behalf of 17 men elaboration of the blood, the normal development of the bones, the normal nutrition of the hair, of the skin, of the subcutaneous adipose tissue; nay, certain traits of character, shown in tendencies intellectual or moral, are in close dependence on its function. Accordingly, in cretinism we find the thyroid to have undergone alterations which, from degenerative forms more or less complex represented by goitre (cases of 'goitrous cretinism') go on to the arrest of the development of the gland itself (cases of 'non-goitrous cretinism')—all the cases in question being coincident with perversion or suspension *of function in the thyroid*." Italy, according to recent statistics, numbers 15,000 cretins, but that total is far below the truth. Besides the registered cases there exist many others in which the *ensemble* of symptoms being "incomplete" escapes the diagnosis of the layman, only the intellectual manifestation of the disease being apparent, but which all the same are cases of "cretinism" pure and simple. Such a malady, overt or masked, Italy must spare no effort to combat. What are the weapons available? There are two, differing in kind. The first takes cognisance of the conditions under which the malady develops. This development (*sviluppo*) is intimately connected with the quality of the drinking water, which contains principles acting directly in the adult, indirectly in the infant (through the nurse's milk), on the thyroid gland, the structure of which they alter and *the normal evolution* of which they inhibit. These principles have yet to be discovered, and until this is done the *remedy is obviously to provide the infected locality* with water possessing a good record as supplied to non-cretinous communities. The *second weapon in combating the disease* is the administration to the sufferers of the well-known preparation from the thyroid of the *lower animals—the* preparation elaborated by Ganghofer and Wagner, whose experiments, checked and confirmed *by Professor Tedeschi* himself, have put it beyond doubt "that in this weapon we possess a means of cure as effective in cretinism as quinine is in malaria." Hundreds of children, continued the lecturer, in Italian as in Swiss practice, have been *cured* by this means in a few weeks—changes physiological and psychological having thus been wrought in cases which seemed doomed for life "to obfuscation of the mind and to decrepitude of the body." Professor Tedeschi concluded his loudly applauded lecture by an appeal to his compatriots, professional and lay, to give the Government no rest until the two weapons above mentioned have been vigilantly and vigorously put in operation in the cretinous districts. A committee *ad hoc* has indeed been formed, its president being Professor Mangiagalli, with Professor Belfanti, Professor Devoto, Professor Foa, and Professor Tedeschi himself as assessors. *Quod felix faustumque sit!*

April 24th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

A Successful Case of Talma's Operation.

Dr. Albrecht showed at a recent meeting of the Medical Society a man who had been suffering *from* alcoholic cirrhosis of the liver and on whom Talma's *operation* was performed in January, 1906. The previous history was to the effect that eight months before the operation icterus and *ascites* had been noticed and œdema of the legs soon incapacitated him. At the operation an incision about six inches long was made across the abdominal wall parallel with the left costal arch and the omentum and the lower extremity *of the* enlarged spleen were sutured to the abdominal wall. There was troublesome hæmorrhage on account of the friability of the spleen, but this was stopped by packing and the wound in the skin was partially *closed*. *In the first few* weeks after the operation the ascites reappeared, but two months later the patient himself noticed *that the* circumference of his abdomen had diminished. He could now resume work and became an omnibus conductor, in which occupation he jumped on and off the vehicle many times a day without experiencing any ill-effect. Two years after this operation the *patient* presented himself to have an operation performed for hernia. He said that there had been no return of the œdema in his legs and *there* was at that time *only* a *little* ascites still present. The collateral circulation was established and the caput Medusæ *formed by* the anastomosis and *enlargement* of the inferior epigastric, the mammary, the intercostal, and the thoraco-epigastric veins was clearly demonstrable. The case was interesting because some authorities believed icterus to be a contra-indication for Talma's operation. The technical aspect of the operation also deserved notice because the spleen was resorted to for the purpose of establishing collateral circulation. Ito and Omi have shown that the omentum alone was not sufficient in all cases. The results of Talma's operation were very favourable. At present most surgeons found that about 33 per cent. of the cases recovered, 33 per cent. were improved, and the remainder were not benefited. Dr. Albrecht believed that if the operation were performed more frequently the larger experience thus gained would make the indications for it clearer and would lead to still better results.

A Proposed Central Board of Public Health.

In the last session of the Austrian House of Lords Privy Councillor Professor Ludwig (professor of medical chemistry in the University of Vienna) moved a proposition asking the Government to bring in a Bill which would *extend the existing* statutes on the subject of public health and also to order the formation of a Central Board of Health. *The proposed* Bill would provide that all the scientific institutes necessary for carrying on the work of the medical *officers of* health should be adequately endowed, that these officers should have facilities for keeping in touch with the latest discoveries of science and for attending post-graduate courses of instruction, and that their official position should be improved so as to induce the best men to seek these appointments. In supporting the proposal he pointed out that Austrian sanitary institutions were at present rather behind the times, that the grants available for them had been fixed too low by the financial authorities, and that many departments of public importance dealing principally with medical questions were not controlled by medical men.

Compression of the Vena Cava Superior by an Aneurysm of the Aorta.

Dr. Weinberger recently described the case of a man who had contracted syphilis 18 years ago and who had for the last six months suffered from pain in the arms and swelling of the face and upper part of the trunk. At present he was affected with cyanosis and œdema, which reached as far as the costal arches in front and to the lumbar region behind, whilst the lower part of the body was free from œdema. The cyanosis was also well marked on the visible mucous membranes. The cutaneous veins of the upper part of the body were dilated. On both sides of the sternum there was a region which gave a dull percussion note and also pulsated a little, whilst on the x ray screen a shadow having a movement of pulsation was visible. On these grounds an aneurysm of the arch of the aorta was diagnosed. Dr. Weinberger believed that the aneurysmal enlargement was compressing the vena cava superior, but it was not impossible that a perforation of this vein by the aneurysm had already taken place, producing an arterio-venous aneurysm. He said that either condition would be accompanied by the extreme cyanosis seen in the patient, but at present there was no means of making a differential diagnosis between them even with the aid of the x rays.

April 27th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Rights of Working Women.

THIRTEEN years ago the Supreme Court of the State of Illinois decided that a State could not, under the Federal constitution, restrict the working hours of adult women. This decision has had the effect of retarding legislation in favour of working women in this country, though two or three States have been governed by the decision of the highest court of Massachusetts which sustained the constitutionality of a law providing a ten-hour day for women. The question has finally come before the Supreme Court of the United States, which unanimously holds that the working hours of women may be restricted for the protection of health and that the welfare of the State depends upon such restriction. It maintains that the two sexes differ in structure of body, in the functions to be performed by each, in the amount of physical strength, in the capacity for long-continued labour, particularly when done standing, in the influence of vigorous health upon the future well-being of the tenement houses were permanent residents, but the greater proportion of them are a kind of floating population depending on chance for a living and being unable to pay their weekly rent are ejected and remove to some other district there to undergo a similar process of ejection in due course. This migratory style of existence is both baffling and disappointing to the best efforts of the school attendance officers and the extent to which it is indulged in can be imagined when it is stated that there are upwards of 250 ejectment cases disposed of in the police courts weekly. It illustrates one of the special evils of tenement-room residence in which no healthy human tissue-fibre—physical, moral, or intellectual—can possibly flourish.

Women's National Health Association for Ireland.

In the Women's National Health Association for Ireland the Countess of Aberdeen appears to have succeeded in an effort in which all preceding political philanthropists had failed—that of bringing together all creeds and classes with the common object of improving the physical conditions of the victims of disease and of poverty—with the ignorance contributory thereunto. Dr. Shamus O'Brien has been set free, by special arrangement, from his duties as dispensary medical officer for the purpose of giving courses of lectures in Irish to the inhabitants of Irish-speaking districts. A committee has been formed with the special object of sustaining his efforts, and the association is very appropriately represented thereon in the person of Dr. Michael F. Cox, senior physician to St. Vincent's Hospital, Dublin, who is a county Roscommon man by birth, and possesses a rare knowledge of Irish history, archæology, and folk-lore. Some of the Registrar-General's valuable diagrams have been prepared with Gaelic texts; and pathological specimens, with coloured diagrams, have been contributed by Professor E. J. McWeeney and Professor A. E. Mettam (of the Catholic University Medical School and the Royal Veterinary College respectively), who are also members of the committee of the Women's National Health Association.

April 28th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Fat Treatment of Diabetes.

M. Maignan read a paper before the Biological Society on April 11th in which he submitted that the only food-stuffs completely used up by diabetic tissues are the fats, because they are the only bodies which do not form sugars in their disintegration. For the subjects of this disorder carbohydrates ought to be forbidden as far as possible, proteins reduced to the minimum—that is to say, to the lowest quantity absolutely necessary for the body's metabolism—and these food-stuffs should be replaced by the fats. M. Maignan, working with M. Arloing, has tried this treatment upon diabetic patients and obtained results similar to those which they had observed in dogs—namely, the disappearance of the sugar, the diminution of the urea and acetone excretion and of the quantity of the urine, the restoration of the patient's vigour, and the immediate arrest of the bodily wasting in severe cases.

The Clinical Employment of Ethyl Chloride as a General Anæsthetic.

The most frequent cause of death during general anæsthesia is syncope, either of toxic or of nervous origin, according to a paper read by M. Camus at the same meeting. He accordingly urged that chloride of ethyl should be employed with slow and progressive dosage. He uses for this purpose a specially constructed mask and is able to induce complete anæsthesia with very small doses (as a rule of from one to three cubic centimetres) in the space of two minutes. The requisite quantities of the drug are put up in glass capsules prepared beforehand and administered first at a temperature of zero, with subsequent gradual warming. This method allows of the better control of the rate of evaporation and avoids the risks of asphyxiation or of toxic complications. The typical clinical picture of anæsthesia is produced gradually and in the same manner the state can be maintained with safety and accuracy.

The Action of Bicarbonate of Sodium on Gastric Secretion.

M. Linossier and M. Lemoine at the Academy of Medicine on April 15th recapitulated the observation which they made as far back as 1893 that bicarbonate of sodium stimulates gastric secretion in whatever doses and at whatever time it is given, but that its action varies according to the activity of the secretory process. Recent experiments confirm this statement, and they find that its effect on the stomach is in inverse ratio to the richness of the gastric juice in hydrochloric acid, being very marked in subjects with less than the normal output and scarcely appreciable in persons with marked hyperchlorhydria.

Disease in the Army.

The following figures are extracted from a recent return of the incidence of disease in the army for the period 1900 to 1905, both for the home and African troops. In the home army influenza accounts for 21 per cent. of the total sick lists; the enteric fever returns form 3·7 per cent.; measles, 18 per cent.; scarlet fever, 8 per cent.; malaria, 15·2 per cent.; dysentery, 1·66 per cent.; tuberculosis, 5·9 per cent.; broncho-pneumonia and capillary bronchitis, 3·8 per cent.; pleurisy, 7·64 per cent.; inflammatory conditions of the throat, 69 per cent.; and venereal diseases, 29·1 per cent. In Algeria the figures are different: influenza, 5·1 per cent.; enteric fever, 11·2 per cent.; measles, 12·2 per cent.; malaria, 12·8 per cent.; dysentery, 7·66 per cent.; tuberculosis, 5·9 per cent.; bronchitis, 3·6 per cent.; pleurisy, 5·9 per cent.; inflammatory conditions of the throat, 34·7 per cent.; and venereal diseases, 72·2 per cent. There is a slight diminution in the occurrence of nearly all these diseases except the last two mentioned.

April 28th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Cretinism.

IN Milan, before a post-graduate audience, reinforced by many of the lay public, Dr. Vitale Tedeschi, professor of children's diseases in the University of Padua, has just delivered a lecture "Sulla Lotta contro Cretinismo" (on the Struggle against Cretinism)—a struggle, I may add, which is only at its initial stage against a malady long endemic in Italy. Cretinism, he set out by remarking, used to be regarded as a special form of degeneration, congenital or hereditary, similar in nature to idiocy. Latter-day science, on the contrary, holds that, in the production of the cretin, degeneration and heredity are only accessories. "Cretinism," continued Professor Tedeschi, "is, *per se*, a true and specific disease." This position he proceeded to fortify by experimental data which go to prove that cretinism is not manifested before the sixth or eighth month of life, and that, moreover, the ancient opinion was well founded according to which a determining factor in the etiology of cretinism is the quality of the drinking water. This opinion has been confirmed by recent research showing the causal connexion between the cretinism of certain communities and the composition of the water which they consume—cretinism appearing for the first time in localities supplied with drinking water from a new source, identical in quality with that imbibed in the regions subject to the disease; and, on the other hand, disappearing from the latter when the water has been introduced from a fresh and traditionally sound reservoir. In further confirmation of this position, Professor Tedeschi instanced cases of *neo-nati* brought from immune districts, and belonging to families equally immune, contracting the disease when put out to nurse in an infected locality. While these are facts inductively established, chemical analysis of the incriminated water has as yet disclosed nothing to account for the disease. Cretinism, according to the findings of hydrographic research in the infected districts, is often manifested in close connexion with goitre; nay, we see in those districts a direct parallelism between the frequency and intensity of goitre and the frequency and intensity of cretinism. The element common to the two is constituted by alteration, structural and functional, in the thyroid gland. This organ was, until a few years ago, an *opprobrium physiologiæ*; now it is recognised as one of the most important organs of the human body. "It is," continues Professor Tedeschi, "the grand regulator of 'growth' in the largest sense of the word—of 'growth' in the intellectual as well as in the physical sphere. Of great organic changes it is always the concomitant, undergoing modifications in all the leading phases of organic life—phases more or less intimately, more or less nearly, connected with the reproductive functions. On its integrity depend the normal inspiring hope in the minds of his patients. His third clinic will most likely be divided amongst the other two clinics, as it was instituted only *ad personam.* His sudden death cast a gloom over the proceedings of the Congress of Rhinology and Laryngology and the business was suspended for an hour as a sign of mourning, a longer adjournment being considered inexpedient on account of the number of foreign visitors. A deputation from the congress was present at the funeral.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Dr. Furquim Werneck, an eminent obstetrician and gynæcologist of Rio de Janeiro, aged 62 years. He represented Brazil in European medical congresses and took a very prominent part in the sixth Brazilian Congress of Medicine and Surgery held at S. Paulo. While a student Dr. Werneck took part in the military operations against Paraguay and later found his early military experience of considerable value during debates in the Federal Congress, of which he was a distinguished member.—Dr. Ludwig Karl Schmarda, emeritus professor of zoology in the University of Vienna, who if he had lived a little longer would have completed his ninetieth year. In early life he was professor of zoology in the University of Gratz but during the political troubles of 1848 acted as surgeon to the military hospitals. After this he was appointed to the chair of zoology in the University of Prague but after four or five years resigned the post and started on a long expedition for scientific observation, during which he visited New Zealand and many parts of South America. For some time after his return he seems to have been disapproved of by the authorities in consequence of his publishing, in collaboration with Professor Unger, a treatise on zoology which was branded as atheistical by the Ultramontane party but in 1862 the University of Vienna elected him to the chair of zoology, which post he filled until some 25 years ago, when he retired. The scientific world is indebted to Professor Schmarda for a number of manuals and monographs on zoological subjects and for a detailed account of his scientific travels in three volumes.—Dr. Franz Mracek, extraordinary professor of dermatology in the University of Vienna, at the age of 60 years. He was in early professional life assistant to Professor Sigmund and afterwards *Primararzt* at the Rudolf Hospital. His best-known works are a Manual of Skin Diseases with numerous plates and a monograph on Syphilis of the Heart.—Dr. Moriz Liebmann, *privat-docent* of midwifery and gynæcology in Budapest.—Dr. Franklin W. Hays, professor of medicine and of dermatology in the Medical College of Indiana, Indianopolis.—Dr. Erwin Herter of Berlin, author of numerous papers on Physiological Chemistry. He was for two years in charge of the chemical department of the Zoological Station at Naples. His age was 58 years.

Medical News.

University of Oxford.—The following candidates have been approved at the examinations indicated:—

Preliminary.

Animal Physiology.—G. H. Alington, Trinity.

Zoology.—H. G. Barnes, Christ Church; W. A. Barr, Exeter; J. H. Beattie, Corpus; C. M. Burrell, University; E. W. Carrington, Keble; J. C. Davies, New; C. Dean, Trinity; R. C. Fairbairn, Exeter; R. A. D. Gillis, St. John's; D. B. J. Hallett, University; R. S. A. Heathcote, New; H. S. Knowlton, Keble; G. A. Maling and E. E. Mather, Exeter; Hon. P. A. Methuen, New; J. C. Moulton, Magdalen; A. L. Pearce-Gould, Christ Church; T. L. Price, Keble; N. D. Pringley, Lincoln; M. O. Raven, Trinity; F. C. Reynolds, New; A. S. Robinson, Exeter; E. R. Speyer, New; G. B. Tarring, Merton; F. J. Tear, non-collegiate; T. O. Thompson, St. John's; B. H. Walker, Queen's; and W. W. Waller, New.

University of Cambridge.—The following have passed the examination in Sanitary Science:—

W. Anderson, A. W. G. Bagshawe (Caius), A. Beeley, J. M. Bernstein, J. Brunton, W. J. Corbett, W. F. Corfield, R. M. Courtauld (Pembroke), A. M. Jukes, S. J. Killen, H. C. T. Langdon (Caius), F. T. C. Linton, T. C. Lucas (Clare), J. F. Macdonald, A. Mathieson, Mabel L. Ramsay, C. D. Rankin, T. S. Ross, Sophie Seekings, E. P. Sewell (Pembroke), D. Stiell, T. Strain, T. W. Wade, and W. N. Walker.

The Linacre lecture will be delivered by Professor W. Osler, M.D. Oxon., F.R.S., on Wednesday, May 6th, at 5 p.m., in the new museums. The subject will be: Thomas Linacre, his life and works.

Society of Apothecaries of London.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—E. M. Adam (Sections I. and II.), Charing Cross Hospital; O. C. Andrews, Birmingham; A. J. K. Brayton (Section I.), Liverpool; J. Brierley (Section I.), St. Thomas's Hospital; A. C. J. Elwin (Section II.), and F. S. Hawks (Sections I. and II.), King's College Hospital; H. E. Middlebrooke (Section I.), London Hospital; L. G. Powell (Sections I. and II.), Royal Free Hospital; J. V. Steward (Sections I. and II.), Manchester; and N. C. Wallis (Section I.), London Hospital.

Medicine.—A. J. K. Brayton (Sections I. and II.), Liverpool; W. J. G. Gayton (Section II.), London Hospital; F. S. Hawks (Section I.), King's College Hospital; J. K. A. Helm (Sections I and II.), Guy's Hospital; J. Jones, Manchester; J. M. Murray (Section I.), Royal Free Hospital; C. S. Ormsby (Section II.), St. George's Hospital and Edinburgh; P. D. Pickles (Sections I. and II.), Leeds; S. Speelman (Sections I. and II.), Amsterdam; and H. B. Waller (Section I.) London Hospital.

Forensic Medicine.—A. J. K. Brayton, Liverpool; W. C. D'Eath, Charing Cross Hospital; J. K. A. Helm, Guy's Hospital; J. Jones, Manchester; J. M. Murray, Royal Free Hospital; C. S. Ormsby, St. George's Hospital and Edinburgh; and F. H. P. Wills, St. Mary's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—A. C. J. Elwin, J. Jones, C. S. Ormsby, P. D. Pickles, L. G. Powell, S. Speelman, and J. V. Steward.

University of Edinburgh.—The following is the official list of passes at the recent professional examinations for degrees in Medicine and Surgery:—

First Professional Examination.—Herbert F. W. Adams, G. A. Melville Anderson, Sidney H. Arthur, Madan Mohan Lal Atal, Clement C. Cafferata, Samuel B. B. Campbell (with distinction), William J. Candlish, Peter W. Carruthers, Allan L. Christie, Asher Cohen, Frank Eley Crew, James H. Cuthbert, Thomas C. Dallas, John P. Davidson, Frederick B. Dreyer, Harry Evans, Stanley Fenwick, Margaret Ferguson, John Gifford, B.A., John G. Gill, William L. Glegg, Robert A. Greenwood, John W. C. Gunn, M.A. (with distinction), Mary I. Hemingway, James A. Henderson, Herbert D. M. Imrie, William N. W. Kennedy, A. Mirza Raza Khan, Maurice B. Lawrie, Harry Lewis, George J. Linklater, Stanley J. Linzell, Joseph M'Caig, Peter M'Cowan, William Macdonald, Eric F. W. Mackenzie (with distinction), Henry M. M'Kenzie, William S. M'Laren, George G. Marshall, James Maxwell, Walter Mercer, Hugh S. Palmer, Hugh F. Penman, Francis G. Power, William A. Rankin, Archibald Romanes, M.A., William Rose, M.A., William J. Rosie, James N. M. Ross, Agnes Rothé, Mossie Rougvie, William M. W. Shepherd, Alan W. S Sichel, B.A. (with distinction), John T. Smeall, William R. Stewart, James R. K. Sutton, Meyer Teitelmann, Garth ap-Thomas, Ruby Thomson, John S. Tomb, Benjamin Weinbren, Harry Whitaker, and Arthur R. Wightman.

Second Professional Examination.—Old Regulations: Major George Bidie, I.M.S. 1892 Ordinance (three subjects): Peter Allan, Francis G. Bell, Walter Bisset, M.A., B.Sc., Uriah F. F. Brown, George R. Bruce, M.A., Gilbert Burnet, Joseph le F. C. Burrow, Walter W. Carlow, M.A., William Darlington, Wilfred J. Feltham, Annie G. Fergus, Eion L. Ferguson, John B. Ferguson, François P. Fouché, Robert W. Greatorex, Edward B. Gunson, Thomas E. Guthrie, Hugo F. G. Hall, W. R. Clayton Heslop, John Honeyford, Alfred E. Huckett, Gideon J. Joubert, Thomas D. Kennedy, David T. M. Large, John P. Litt, John M. Logie, A. Sinclair Loutit, D. Murray Lyon, Wilfrid V. Macaskie, Thomas M'Fetridge, John R. M'Gregor, William Macnaughton, Ram C. Malhotra, Sesi Marshall, Daniel B. Maunsell, William A. Miller, B. Branford Morgan, Oliver A. J. N. Muriset, Harry G. G. Nelson, Pieter J. Olivier, Dora E. Paterson, Peder N. Pedersen, Stanley Pinion, Stephen H. Paga, William D. Reid, Christopher Rogers, William A. Shafto (with distinction), Fraser M. Sinclair, John Stevenson, Claude B. Tudehope, Stephen H. Wilkinson, and Guy A. Wyon, B.Sc. New Ordinance (1907) (two subjects): Robert M. Allan, Charles J. G. Bourhill, George S. Brock, J. Falconer Brown, Ernest H. Cameron, John Drummond, Francis R. Fraser, B.A., Alexander Hood, John Hunter, Eric C. Lang, Robert S. Lawson, M.A., Emilius C. Mackay, M.A., Philip W. Maclagan, Donald J. M'Laren, Robert D. M. Macpherson, Duncan F. Macrae, Norman F. Mann, Horace M. Mills, Archibald A. Morison, Duncan M. Morison, Malcolm M. Morison, Montgomery P. Paton, William C. Paton, James F. Penman, A. Z. Philips, Charles K. Pole, Allan H. Porter, Nicholas Purcell, Alexander W. Rattrie, Thomas C. Ritchie, William Russell, Thomas R. Sandeman, Austin N. Smith, James R. Stott, James Taylor, and John J. Tough.

Third Professional Examination.—D. C. Adam, David Aiken, R. J. Allsopp, Alexander Archibald, Fergus Armstrong, Alice E. M. Babington, T. H. Balfour, A. E. C. Beausoleil, R. A. Bell, Eveline R. Benjamin, W. M. Biden, T. C. Borthwick, F. A. J. Brodziak, G. S. Brown, A. Ninian Bruce, B.Sc., P. J. de Bruijn, W. F. Buist, O. S. Bulloch, W. L. Burgess, B. N. Burjorjee, A. W. Burton, Sarah E. Buyers, J. Argyll Campbell, John Cathcart, G. L. Cawkwell, A. D. Child, H. A. Cookson, N. A. Coward, James Crocket, Lucy E. Davies, J. K. M. Dickie, I. D. Dickson, Adelaide A. Dresper, J. W. C. Drever, A. E. Drynan, A. M. Elliott, A. H. Elmslie, G. F. Fismer, Thomas Fraser, F. L. Galletly, Mary M. Gardner, A. W. Gill (with distinction), T. J. Gilmore, W. E. Goss, W. T. Graham, A. G. M. Grant, R. D. Latimer Greene, S. C. Sen Gupta, A. G. Hamilton, H. F. Hamilton, R. C. Harkness, T. E. Harwood, B.A., John Henderson, G. R. Inglis, Flora Innes, G. E. King, Lina Kurz, J. H. Lawry, Harry Lipetz, W. R. Logan, H. A. V. Loots, H. F. Lumsden, D. C. Macaskill, M.A., J. C. MacCallum, D. R. C. Maclagan, G. E. G. Mackay, J. M. M'Keand, Donald M'Phail, R. C. Macqueen, John Malloch, T. H. R. Mathewson, William Messer, E. L. Middleton (with distinction), A. F. W. Millar, G. M. Miller, A. M. Minford, L. M. V. Mitchell, John Montgomery, S. P. Moore, William Morrison, J. A. Mortimer,

race, in the self-reliance which enables one to assert full rights, and in the capacity to maintain the struggle for subsistence. This decision will have an immediate and powerful influence in promoting legislation in the States restricting the hours of labour of women and children.

Eye-glasses for School Children.

The Committee on Elementary Education of New York reports that 36,000 children in the public schools of this city are suffering from visual defects that demand correction to enable these children to profit to the full by the opportunities for study furnished to them. This is 6 per cent. of the total number in the schools. The committee recommends the organisation of centres well equipped for the examination of school children whose sight is defective and the provision of eye-glasses made to prescription; the appointment by the Department of Health of 30 ophthalmologists to examine all the pupils of the public schools referred to them; and, finally, the appointment of an advisory body consisting of five members.

Commission on Problems of Nutrition.

The University of Illinois is about to appoint a commission for the purpose of conducting experiments on the effect on the consumer of the preservatives in common use in food-stuffs, especially meats. The work will be done under the direction of Professor Grindly of the department of physiological chemistry of the University. Associated with him will be Professor Chittenden of Yale College, Professor Abel of Johns Hopkins University, and Professor Mathews of the University of Chicago. This investigation is encouraged, and in part supported, by the beef packing houses of Chicago. The commission is composed of professors of physiological chemistry of wide reputation as accurate and trustworthy authorities in their field of practical work.

Serum Treatment of Cerebro-spinal Meningitis.

The medical director of the Rockefeller Institute for Medical Research, Dr. Simon Flexner, has recently made public the experiments by which the serum was finally obtained and the results which have thus far attended its use. The meningococcus was found to have many peculiarities. Its effects on guinea-pigs were not like those on man; experiments with goats only occasionally succeeded; the lesions in monkeys resemble those in man both macroscopically and microscopically, but in monkeys there is more involvement of the central nervous system. Encouraged by the results obtained by these tests the experimenters began to immunise a horse, and after eight months this serum was tried on man. At first the dose was small, 5 cubic centimetres; later it was increased to 10 cubic centimetres and 15 cubic centimetres, and then larger doses were given. The injection was always made directly into the spinal canal. In the last epidemic of cerebro-spinal meningitis in New York there were 5000 cases, with a mortality of 70 per cent. The first trial of the new serum was in an epidemic in Ohio, where it was used in 40 cases, with 29 recoveries and 11 deaths—a mortality of 27·5 per cent. It has since been used in 17 cases in New York, with 12 recoveries and five deaths; 20 cases in Boston, with 17 recoveries and three deaths; 15 cases in Philadelphia, with nine recoveries and six deaths; three cases in Baltimore, with two recoveries and one death; 30 cases in Belfast, with 22 recoveries and eight deaths; and five cases in other places, with four recoveries and one death. The total of all reported cases up to the present time is 130 treated with the serum, of which 95 recovered and 35 died—a mortality of 27·5 per cent.

April 21st.

LONDON HOSPITAL MEDICAL COLLEGE: UNIVERSITY OF LONDON.—Mr. G. P. Mudge will continue his course of five lectures on Mendelian Inheritance on Wednesdays, May 6th and 13th at 4.30 P.M. The first lecture will deal with the Mendelian principles; Mendelian inheritance in animals and plants. The second lecture will deal with Mendelian inheritance in man in regard to both normal and pathological characters; eye-colour, brachydactyly, tylosis palmaris et plantaris, epidermolysis bullosa, curly hair, hetero-chromia of iris, diabetes insipidus, congenital stationary night-blindness (Nettleship's case), congenital cataract, musical sense, albinoism, Daltonism, insanity, and tuberculosis; the possible nature of sex-limited diseases in man, its analogous manifestation in lower animals. These lectures, which are free to all students of the University, will be given in the physiological theatre.

Obituary.

PROFESSOR LEOPOLD VON SCHRÖTTER.

ON April 22nd the medical profession of Vienna and the many foreign medical men visiting the city were greatly startled by the announcement of the tragically sudden death of Professor Leopold von Schrötter, Ritter von Kristelli. After having completed his seventieth year Professor von Schrötter, who was director of the third clinic for internal medicine in the University of Vienna, ought to have resigned this post but the Senate of the University granted him another year, the so-called honorary year of lecturing, which would have terminated next July. On the opening of the first International Congress of Rhinology and Laryngology, which was held in Vienna from April 21st to 25th, and of which he was the honorary president and the moving spirit, he delivered a magnificent address on the two founders of laryngology, Dr. Türck and Dr. Czermak, at midday, and invited about 40 of the most eminent of the foreign visitors to spend the evening at his house. With them he engaged in animated conversation until midnight when he retired. An hour later his son happening to enter the bedroom found that his father was dead. The deceased suffered from sclerosis of the coronary arteries and an attack of angina pectoris had terminated his life. He had been ailing a little for some time but no one, himself included, had felt any alarm as the symptoms were very slight. Leopold von Schrötter was a son of a man distinguished in science, Anton von Schrötter, and was a native of Gratz where he was born in 1837. At a comparatively early age he took the degree of M.D. in the University of Vienna in 1861 and became assistant to Professor Skoda whose ill-health often made it necessary that his assistant should deliver the clinical lectures. He soon showed a special interest in laryngology and became *privat-docent* for this subject in 1867. On the death of Dr. Türck, the chief laryngologist of that time, von Schrötter succeeded in convincing the authorities that laryngology was a subject of sufficient importance to deserve a special clinic. When this clinic, which had only 16 beds, was established he was made director of it and thus he was the first and only professor of clinical laryngology in Europe. He soon received the additional appointment of professor of internal medicine and in this way had two clinics under his supervision until in the year 1890 a third clinic was created for him in the General Hospital, where he had both beds for laryngological and medical patients and an out-patient department as well. The laryngological clinic of 16 beds was given to Dr. Stoerk. Professor von Schrötter was without question the pioneer of modern laryngology and its independent position is largely due to his influence. The treatment of stenosis of the larynx, the diagnosis of laryngeal paralyses, and the relations between various diseases and those of the throat were among the principal subjects at which he worked. He was also the first to perform an intra-laryngeal operation, cocaine being the anæsthetic selected. It is therefore not surprising that most of the well-known laryngologists of the present day have been his pupils. His lectures were attended by a multitude of foreign physicians and surgeons and his private practice was enormous. His fame increased when, in 1887, he was called in consultation with Sir Morell Mackenzie to the then Crown Prince Frederick of Germany. He was the founder of the Vienna Laryngological Society and was co-editor of several monthly and weekly laryngological journals. Professor von Schrötter was an energetic, quick worker; his ideas were mostly sound and he knew how to give them vivid expression. He threw himself into the movement for establishing sanatoriums for the treatment of tuberculosis and he persevered until a model institution of this kind—Alland, the first in Austria—was erected. As a physician and clinical teacher he was much esteemed alike by patients and students. The latter had a trustworthy friend in him, and in order to bring them into contact with the patients he always required his students to spend their afternoons in the wards, accompanying him on his rounds. His lectures on Diseases of the Chest were masterpieces of their kind. Heart diseases, mediastinal changes, and in recent years the use of the x rays in the examination of the chest were his favourite subjects in this department of medicine. His manner was at all times cheerful and he had an unusual power of specially designed for the purpose and which is further admirably situated and in close proximity to the residences of all the medical men. So far no solution of the difficulty has been found, though it cannot be believed but that one agreeable to all parties exists. It is sincerely to be regretted that a gift given in circumstances such as the use of this hospital was given and, moreover, given for the use of those who are not in a position to provide all that may be necessary to insure their recovery from serious illness is threatened with withdrawal simply because of the existence of some little difficulty which if approached in the true spirit could be got over immediately. Arbitration has been eminently successful quite recently in far more difficult and far more vital matters.

ROYAL SOCIETY OF MEDICINE (ELECTRO-THERAPEUTIC SECTION).—The ordinary monthly meeting of the section will be held in the rooms of the Royal Philosophical Society, 207, Bath-street, Glasgow, on Friday, May 22nd, at 8.30 P.M. Mr. William Deane Butcher, President of the Section, will occupy the chair. The following papers will be read: Interrupted Currents for Electrical Testing and Treatment, by Dr. H. Lewis Jones; Some Reflections Based upon the Work done in the Electrical Department of the Royal Infirmary, Edinburgh, by Dr. Dawson Turner; and Ionic Medication in the Treatment of Some Obstinate Cases of Pelvic Disease in Women, by Dr. Samuel Sloan. An exhibition of electrical apparatus will be held in the same place from 3 P.M. to 10.30 P.M. Light refreshments will be provided free of cost to visitors. The meeting and exhibition will be open to all duly qualified medical practitioners. As the attendance in the evening will probably be considerable it is requested that those who may find it convenient to visit the exhibition in the afternoon will do so.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—On April 15th Mr. A. H. Evans, M.R.C.S. Eng., L.S.A., was presented with a handsomely chased and inscribed silver cake-dish on behalf of over 100 patients of the Sutton Coldfield Medical Dispensary. Mr. Evans is retiring from active work in connexion with the institution.—On April 24th at a public meeting at Gilfach Goch, South Wales, Mr. David Naunton Morgan, F.R.C.S. Irel., L.R.C.P. Lond., was presented with an oil painting by Mr. J. M. Hemy and a grand piano was given to Mrs. Morgan. Recently the Fellowship of the Royal College of Surgeons has been conferred upon Mr. Morgan, and this was taken as an opportunity for making the presentation in order to show the respect and esteem felt for him by the residents of the district.—At St. Columb (Cornwall) on April 18th Mr. John C. Mackay, M.D. St. And., L.R.C.P., L.R.C.S. Edin., J.P., was presented with a silver tea-tray, suitably inscribed, a silver tea service, and a silver rose-bowl. The present was accompanied with a bound volume containing an illuminated address and the signatures of 381 subscribers. The presentation was made by Mr. A. C. Willyams, J.P., on behalf of the subscribers, as a mark of respect and esteem for Dr. Mackay who after practising at St. Columb for more than 25 years has been obliged, owing to failing health, to relinquish the active work of his profession.

THE PUBLIC PURSE AND DEFECTIVE SCHOOL CHILDREN.—The Board of Education in a letter to the West Sussex Education Committee has sanctioned the spending of public money to meet the cost of treating children in elementary schools who are suffering from physical defects. The Board was appealed to owing to the alarming state of affairs which has arisen from the inspection of children at schools in the Horsham district of Sussex, where of 1315 children examined no fewer than 40 per cent. were found defective, and nearly one-half of these required an operation either for enlarged tonsils or adenoids. At the meeting of the Horsham school managers on April 15th it was stated that in the town of Horsham alone there were 60 cases of adenoids urgently requiring operations, 54 cases being very serious indeed. The difficulty in dealing with so many children can be seen at once, the more so as in the majority of the cases the necessary operations cannot be performed at the parents' homes. But the difficulty has been surmounted, thanks to the sanction of the Board of Education and the loan of a cottage by one who is interested in the work. This cottage will be the temporary hospital and the nurses and necessaries will be supplied from the cottage hospital, the education authority subscribing to the cottage hospital such a sum as the hospital committee thinks appropriate. This arrangement, it was stated, entirely met with the approval of the authorities at Whitehall, but education authorities will have to keep a close watch upon the use of the public purse in this matter or they will be greatly imposed upon by parents. Every care must be taken to see that the parental obligation is insisted upon wherever possible, or parents will be found accepting free medical advice and help when really they are in a position to pay for it, or at least to pay something towards it. The serious extent to which this new call upon the public purse may develop is shown by the very large number of defective children in a healthy rural district. What of the cities and large urban areas?

MEMORIAL TO THE LATE MR. WILLIAM VAN PRAAGH.—The services to the deaf and dumb rendered by the late Mr. William Van Praagh have been acknowledged by the association for their oral instruction. Mr. Van Praagh, who died last year, was director of the school and training college connected with it for 37 years and was a leading exponent of the association's excellent method. A mural tablet in his memory was unveiled on April 27th at the school of the association by the Rev. C. H. Parey, acting on behalf of Mr. Leopold de Rothschild. There were over 100 subscribers to the memorial.

MEDICAL MAGISTRATES.—The names of Mr. Harry Davis, senior, M.D. St. And., M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., of Callington; Mr. John C. Mackay, M.D. St. And., L.R.C.P., L.R.C.S. Edin., of St. Columb; and Mr. Robert Garven Nesbitt, L.R.C.P., L.R.C.S. Irel., of St. Just, have been placed on the commission of the peace for the county of Cornwall. Mr. Henry Gervis, M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., has been placed on the commission of the peace for Brighton. Dr. Gervis filled the mayoral chair in 1906–07 and is at the present time the deputy mayor.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of this society was held at 6, Catherine-street, Strand, London, W.C., on April 15th. There were present Dr. F. de Havilland-Hall (in the chair), Dr. W. Knowsley Sibley, Mr. F. S. Edwards, Mr. J. Brindley James, Mr. J. F. Colyer, Dr. F. S. Palmer, Dr. St. Clair B. Shadwell, Dr. M. Greenwood, Mr. Edward Bartlett, and Dr. J. B. Ball. The amount of sickness pay disbursed by the society in the first three months of this year has been somewhat augmented by the epidemic of influenza, but the number of claims from this source now being received is not great and the illnesses are for the most part of short duration. The number of new members obtained this year is larger than in any previous similar period and has so far beaten the record figures of last year. The annual report to be presented to the members on May 21st will show that during the year 1907 the society has largely grown, both in members and in financial strength. Prospectuses and all further particulars can be obtained on application to Mr. F. Addiscott, secretary, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

TRINITY COLLEGE, DUBLIN: POST-GRADUATE CLASSES.—Trinity College has now issued a complete syllabus of post-graduate classes in connexion with the medical school for 1908. In addition to the summer course held in the month of June it has been decided to hold an autumn course which will begin on Sept. 21st and end on Oct. 10th. The subjects and lecturers respectively chosen are:—Medicine: Dr. Henry T. Bewley and Dr. A. R. Parsons. Surgery: Mr. Thomas E. Gordon and Professor Edward H. Taylor. Gynæcology: Mr. E. Hastings Tweedy. Diseases of the Eye: Sir Henry R. Swanzy. Diseases of the Throat, Nose, and Ear: Mr. Robert H. Woods. Diseases of the Skin: Dr. Wallace Beatty. Pathology: Dr. Alexander O'Sullivan. Anatomy: Professor A. Francis Dixon. Physiology: Professor W. H. Thompson. X Ray work: Dr. William S. Haughton. Cystoscopy: Mr. K. E. L. G. Gunn. From the time table it will be seen that work will begin at 8.30 A.M. and will be continued through the day, with an interval for lunch, till 5.30 P.M. Through the kindness of the Provost it will be possible for a certain number of the class to reside in college rooms and to dine on commons at a moderate cost. This opportunity of pleasant social intercourse after the day's work is done has been highly prized in the past. The number of rooms available, however, is limited and consequently early application for them is desirable. Further details will be found in our advertising columns in a recent issue and a complete syllabus can be obtained from the honorary secretary, 27, Lower Fitzwilliam-street, Dublin.

J. M. Moyes, C. C. Murray, R. M. Nicholson, F. H. Noronha, James Oag, M.A., John Renwick, D. G. Robertson (with distinction), W. S. Robertson, D. M. Ross, William Ross, M.A., R. P. Rosser, A. C. Russell, C. M. Schaffter, Jessie A. Scott, J. J. M. Shaw, M.A., J. C. Simpson, Kerr Simpson, G. H. Sinclair, J. D. Skinner, H. F. Smith, B.A., J. G. Smyth, James Sprent, B.Sc., William Stevenson, William Stewart, C. P. A. Stranaghan, James Swan, A. L. Taylor, H. W. Teague, J. A. Thompson, L. R. Thomson, W. S. Thomson, N. J. Watt, J. P. Whetter, Seymour Williams, John Wilson, J. D. Wilson (with distinction), and Margaret C. Young.

Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow.—At the recent aexminations of the board of the Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow the following candidates passed their respective examinations:—

Five Years' Course.

First Examination.—Arthur Lloyd Edwards, Penygroes; James Alfred Frost, Glenbrook; George Anthony Macvea, Whithorn; Cyril Scotter Owen, Hale, Cheshire; William Shorten, Timoleague; and Valentine Hutchinson Wardle, Bishop Auckland.

Second Examination.—John Paxton, Norham-on-Tweed; and Hugh Francis Williams, Llanfyllin.

Third Examination.—Conrad James Arthur, Grenada, W.I.; Herbert Christian Bankole-Bright, West Africa; Denis Cogan, Cork; James Denis Collins, Cork; John Alexander Irwin, Donegal; Angus Cameron Livingston, Glasgow; Patrick James Taaffe, Liverpool; and Frank Walter White, Gosforth.

Final Examination.—Ishwar Das, Punjab; Charles James Campbell Faill, Edinburgh; William Richard Griffith, Bettws Abele; Maurice Edward Kayton, Bagdad; James William Muir Hunter, Nottingham; Les Singarayen Machado, Ceylon; John Moncrieff Muir, Kilmarnock; Manec B. Patel, Bombay; Sécossène Piarroux, Mauritius; Patrick Reid, Carlow; and Bildey Singh, Lahore.

Foreign University Intelligence.—*Berlin:* Dr. Georg Lockemann of Leipsic has been appointed to the charge of the Chemical Department of the Institute for Infectious Diseases in succession to Dr. Proskauer.—*Breslau:* Dr. Danielsen has been appointed *Oberarzt* of the Surgical Clinic in succession to Professor Anschutz who goes to Kiel.—*Copenhagen:* Dr. Hartmann has been recognised as *privat-docent* of Gynæcology.—*Greifswald:* Dr. W. Lange, of the aural department of the Charité, Berlin, has been appointed Extraordinary Professor of Otology and Director of the Aural Policlinic, in succession to Dr. Wittmaack, who has gone to Jena.—*Halle:* Dr. Winternitz and Dr. Frese, *privat-docenten* of Medicine, have been granted the title of Professor.—*Lemberg:* Dr. E. Biernacki, *privat-docent* of Experimental Pathology, has been granted the title of Extraordinary Professor.

Far Eastern Association of Tropical Medicine.—A conference of medical men practising in the Far East was held in Manila on Feb. 27th to consider the advisability of establishing a society to further the knowledge of tropical medicine and to promote friendly international intercourse among those whose medical or scientific duties and interests bring them into close contact with the natives of these regions. The following gentlemen took part in the conference: Dr. N. Black (Singapore), Dr. F. W. Clark (Hong-Kong), Dr. Cheng (Canton), Dr. Dudley (Manila), Dr. R. T. Edwards (Siam), Dr. H. Fraser (Federated Malay States), Dr. Paul C. Freer (Manila), Dr. Garrison (United States Navy), Dr. Gurney (Philippine Constabulary), Dr. Hayward Hays (Siamese Navy), Dr. R D. Keith (Singapore), Dr. Kitajima (Japan), Dr. J. R. McDill (Manila), Dr. H. T. Marshall (Manila), Dr. W. E. Musgrave (Manila), Dr. Nichols (United States Army), Sir Allan Perry (Ceylon), Dr. Pond (Manila), Captain Ryley, R.A.M.C. (Hong-Kong), Dr. Saleeby (Manila), Dr. Tee Han Kee (Manila), and Dr. J. J. Vassal (Annam). It was unanimously decided to establish such a society and the articles of association and by-laws were duly adopted. The council of the association will consist of a representative from each component Government and a representative from each component medical organisation, and it is hoped that during the ensuing year the Governments of Japan, China, Hong-Kong, the Philippine Islands, Tonkin, Annam, Singapore, the Federated Malay States, Siam, Borneo, Java, Ceylon, and other Far Eastern States and Colonies will nominate representatives, and that each medical organisation or branch of such organisation will similarly nominate a representative to serve on the council of the association. It was further decided to organise a conference every two years, to be held in one or another of the above countries, the first conference to take place in Manila early in the year 1910, and Dr. Paul C. Freer, director of the Bureau of Science of the Philippine Islands, was elected as the first President of the association. At these conferences papers will be read, pathological and other scientific exhibits displayed, and the medical, sanitary, and other allied institutions and services of the country in which the meeting is held will be thrown open, so far as may be possible, and demonstrated to those attending the meeting. Each component country will be represented for business purposes by a secretary-treasurer and there will be a general secretary-treasurer for the association. Dr. Francis W. Clark, medical officer of health of the colony of Hong-Kong, was elected the first general secretary-treasurer. The subscription was fixed at 10*s.* a year. Dr. Clark's address for the next few months will be the Royal Societies Club, St. James's-street, London, S.W.

Donations and Bequests.—By the will of the late Mr. Stewart Clark of Linlithgow the following sums are left to charities: £5000 to the Royal Alexandra Infirmary, Paisley; £2000 to the Annie Clark Fund for Incurables, Paisley, and the Annie Clark Fund for Incurables, Larne; £1000 to the Gleniffer Home for Incurables, Paisley; £1000 to the Royal Victoria Eye Infirmary, Paisley; and £1000 to the Paisley Convalescent Home, West Kilbride.—By the will of Mr. Stephen Hamilton Thompson of Edgbaston, who left estate valued at £45,364 gross, with net personalty £23,712, the residue of his estate will be equally divided between the Birmingham and Midland Throat and Ear Hospital, the Queen's Hospital, Birmingham, the Royal Institution for the Instruction of Deaf and Dumb Children, and the General Institution for the Blind, Birmingham. But if each of these institutions would receive more than £2000 such excess is to be distributed by his trustees among such charitable institutions as they think best.—The late Mrs. F. Yarde of Exeter has bequeathed £1000 to the funds of the Royal Devon and Exeter Hospital, Exeter.

Evelina Hospital for Sick Children.—Presiding at the annual court of governors on April 22nd, Sir W. P. Treloar, Bart., in moving the adoption of the report, said it was a tribute to the work of the hospital that the trustees of King Edward's Hospital Fund had made a grant of £250 during the year, as against £100 in the previous year, and the authorities of the Fund had further shown their appreciation by making substantial grants to the new building. Moreover, the grant from the Hospital Sunday Fund had been increased from £180 to £270. In the course of the year a new wing had been opened which was now in full operation. Its total cost was £14,000. Many children were sent to convalescent homes at an annual cost of about £300, and in this connexion he hoped that the home for crippled children which he was engaged in establishing at Alton, and which he hoped would be opened in June or July, would be able to afford accommodation to patients of the Evelina and other such hospitals who needed medical treatment in the country. The report was adopted.

Corbridge Hospital.—Corbridge is a pretty residential village of some 2000 to 3000 inhabitants, situated on the banks of the Tyne, 17 miles west of Newcastle on the Carlisle railway line. Corbridge is the centre of a very large agricultural district and though now only a village, and in many respects much less important than the neighbouring market town of Hexham, it has in the past taken a very important share in the history of this part of the country, as is evidenced by the fact that immediately adjacent to the modern village are the remains of one of the largest Roman settlements in Britain. The village and district have for some years enjoyed the privilege of the use of a small cottage hospital erected in memory of the late Mr. H. S. Edwards of Byethorn by members of his family. The hospital has in the past been managed by Miss Edwards, with the assistance of a committee of ladies. Rumours of disagreement among the members of the committee have been circulated for some little time. The committee was lately strengthened by the addition of some male members but without avail. The differences of opinion in the committee became more acute and finally the whole of the members resigned, with the result that the hospital was closed some three months ago. Since then a new committee has been formed and various proposals have been made, including a suggestion that a piece of land should be acquired and a new hospital erected. It would seem improbable that this latter suggestion will meet with the approval of those who contribute to the maintenance of the hospital, seeing that there already exists a building which was

John Bale, Sons, and Danielsson, Limited, 83-91, Great Titchfield-street, London, W.

Heredity, Variation, and Genius. With Essay on Shakspeare: "Testimonied in his own Bringingsforth." An Address on Medicine: Present and Prospective. By Henry Maudsley, M.D. Price 5s. net.

Kegan Paul, Trench, Trübner, and Co., Limited, Dryden House, 43, Gerrard-street, Soho, London, W.

Life of Richard Wagner. By Wm. Ashton Ellis. Vol. VI. Price 16s. net.

Longmans, Green, and Co., 39, Paternoster-row, London, E.C., and New York, Bombay, and Calcutta.

Land Reform. Occupying Ownership, Peasant Proprietary and Rural Education. By the Right Hon. Jesse Collings, J.P., M.P., President of the Rural Labourers' League, Life Member of the Société des Agriculteurs de France. New and popular edition. Price 2s. 6d. net.

Maclehose, James, and Sons, 61, St. Vincent-street, Glasgow.

The Vermiform Appendix and its Diseases. By Duncan Macartney, M.A., M.D., Surgeon to the Glasgow Cancer Hospital; Senior Assistant Surgeon to the Western Infirmary of Glasgow; late Examiner in Surgery to the University of St. Andrews. Price 3s. 6d. net.

Macmillan and Co., Limited, St. Martin's-street, London.

Confessio Medici. By the Writer of "The Young People." Price not stated.

Miller, Charles C., 70, State-street, Chicago.

Cosmetic Surgery. The Correction of Featural Imperfections. By Charles C. Miller, M.D. Second edition, enlarged. Price $1.50.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Benson, Christopher Richmond, M.R.C.S., L.S.A., has been appointed Medical Officer for the Bratton Clovelly District by the Okehampton (Devon) Board of Guardians.

Mill, G. Robertson, M.D. Edin., has been appointed Honorary Medical Officer to the Birkenhead Maternity Hospital.

Reese, David William, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Warmley (Gloucestershire) Rural District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Army Medical Service.—Thirty Commissions.

Benenden Sanatorium.—Medical Superintendent. Salary £250 per annum, with board, lodging, and attendance.

Bloomsbury Dispensary.—Physician. Salary 100 guineas.

Bridgend, Glamorgan County Asylum.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, attendance, and washing.

Bristol General Hospital.—Assistant House Physician. Salary £80, with board, residence, &c.

Cardiff Infirmary.—House Physician for six months. Salary £30, with board, residence, and laundry.

Carlow District Asylum.—Resident Medical Superintendent. Salary £350 per annum and allowances.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—Physician to Out-patients. Also Clinical Assistant.

Clinical Research Association.—Assistant Director of the Laboratory. Salary £250 per annum.

Derbyshire Royal Infirmary.—House Surgeon. Salary £100 per annum, with apartments, board, &c.

Dreadnought Hospital, *Greenwich*.—Assistant Physician; also Assistant Physician or Surgeon for Diseases of the Throat, Nose, and Ear.

Dumfries, Crichton Royal Institution.—Two Resident Clinical Physicians. Salary at rate of 50 guineas per annum, with board, rooms, and laundry.

Fermanagh County Hospital, Enniskillen.—House Surgeon.

Guildford, Royal Surrey County Hospital.—House Surgeon. Salary £100, with board, residence, and laundry.

Hôpital Français, 172, Shaftesbury-avenue, W.C.—Junior Resident Medical Officer, unmarried, for six months. Salary £50 per annum, with full board.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians for six months. Salary £25.

Huddersfield Infirmary.—Junior House Surgeon. Salary £50 per annum, with board, residence, and washing.

Huddersfield Local Education Authority.—School Medical Officer. Salary £300 per annum.

Ipswich, East Suffolk and Ipswich Hospital.—Third House Surgeon. Salary £50 per annum.

Kettering and District General Hospital.—Resident Medical Officer, unmarried. Salary £80 per annum, with board, residence, &c.

King Edward VII. Sanatorium, Midhurst, Sussex.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and attendance.

Lancaster, County Lunatic Asylum.—Assistant Medical Officer for the summer months. Salary 3 guineas per week, with board, lodging, and washing.

Leicester Poor-Law Infirmary.—Second Resident Assistant Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

Lincoln General Dispensary.—Resident Junior House Surgeon, unmarried. Salary £175 per annum, with apartments, fire, and gas provided.

London County Asylum, Horton, Epsom, Surrey.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

London Hospital, Whitechapel.—One Medical and Two Surgical Registrars. Salary in each case £100 per annum.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £80 per annum, with board, residence, and washing.

Manchester Corporation Tramways.—Medical Officer.

Miller General Hospital for South-East London, Greenwich-road, S.E.—House Surgeon for six months. Salary at rate of £80 per annum, with board, attendance, and washing. Also Honorary District Medical Officer.

Newcastle-on-Tyne, Hospital for Sick Children.—Assistant Honorary Surgeon.

Norwich, Norfolk and Norwich Hospital.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing. Also Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

Nottingham City Asylum.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, &c.

Nottingham General Hospital.—Assistant House Physician, also Assistant House Surgeon. Salary in each case £80 per annum, with board, lodging, and washing. Also Locum Tenens for three and a half months. Salary £45, with board, lodging, and washing.

Plymouth, South Devon and East Cornwall Hospital.—House Physician for six months, renewable. Salary £75 per annum, with board, residence, and washing.

Royal Ear Hospital, Dean-street, Soho.—House Surgeon. Salary £40 per annum.

Royal Navy, Medical Department.—Examination for not less than 15 Commissions.

St. George's Hospital, S.W.—Resident Anæsthetist. Salary £50 per annum, with board and residence.

St. Giles', Camberwell, Infirmary and Workhouse.—Assistant Medical Officer. Salary £140 per annum, with apartments, board, and washing.

Samaritan Free Hospital for Women, Marylebone-road, N.W.—Clinical Assistants.

Sheffield Union Hospital, Fir Vale.—Resident Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, &c.

Society of Apothecaries of London.—Examiners in Medicine and Surgery.

Stone, near Aylesbury, Bucks County Lunatic Asylum.—Assistant Medical Officer. Salary £150 per annum, with board and apartments.

Sunderland Infirmary.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

Swansea General and Eye Hospital.—House Surgeon. Salary £75 per annum. Also House Physician. Salary £75 per annum.

Wolverhampton and Staffordshire General Hospital.—Second House Physician. Salary £80 per annum, with board, lodging, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

Brownlie.—On April 24th, at Drayton House, Redcar, the wife of A. Brownlie, M.D., of a son.

Hubert.—On April 23rd, at Rosehill, Billingshurst, Sussex, the wife of W. A. Hubert, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

Trist.—On April 22nd, at Crest House, Putney Bridge-road, S.W., the wife of John Ronald Rigden Trist, M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

Forsyth—Livermore.—On April 22nd, at the parish church, Neston, Cheshire, Charles Forsyth, F.R.C.S. Edin., and J.P. of Hong-Kong, to Dorothy Mary, daughter of Mr. and Mrs. Martin Livermore, of Turzum, Neston.

Higgins—Brandon.—On April 18th, at St. Paul's Church, Carlisle, William Robert Higgins, M.A., M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. *Lond., to Frances Agnes*, daughter of the late Matthew Brandon, of Carlisle.

Hutchison—Haynes.—On April 25th, at St. Patrick's, Hove, by the Rev. H. L. Haynes, brother of the bride, assisted by the Rev. Walter Marshall, Vicar of the parish, and the Rev. Felix Asher, of Holy Trinity, Brighton, Arthur Jaffrey Hutchison, M.A., M.B., 84, Lansdowne-place, Hove, to Eve Muriel Lankester, elder daughter of Mr. and Mrs. Horace Eyre Haynes, 32, Brunswick-terrace, Hove.

DEATHS.

Bowen-Davies.—On April 24th, at Gorphwysfa, Exmouth, William Bowen-Davies, L.R.C.P., M.R.C.S., L.S.A., J.P., late of Brynarlais, Llandrindod Wells, aged 60 years.

Daglish.—On April 23rd, at New Romney, Kent, Richard Rothwell Daglish, J.P., Mayor of New Romney, aged 66 years (retired Practitioner).

Mull.—On April 18th, at Ventnor, Isle of Wight, William Ernest Mull, B.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., youngest son of the late William Mull, M.D., Kirby Moorside, and Mrs. Mull, Scalby, Yorks.

Prangley.—On April 24th, at Tudor House, Anerley, Henry John Prangley, M.R.C.S., L.R.C.P., aged 50 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Death of Sir Henry Campbell-Bannerman.

PROFOUND regret is felt in Parliamentary circles at the death of the late Prime Minister, Sir HENRY CAMPBELL-BANNERMAN, which came so close on his resignation of office. Expression was given to this feeling on Monday, the day of the memorial service in Westminster Abbey, curiously enough also the date on which the House of Commons reassembled after the Easter recess. All controversial business was laid aside for the day as a mark of respect to the dead statesman. In dignified and eloquent language the new Prime Minister, Mr. ASQUITH, paid a fitting tribute to his predecessor, to his capacity in affairs of State, to his urbanity and charm of manner, his kindliness of disposition, his power of leadership. Mr. AKERS-DOUGLAS, in the absence of Mr. BALFOUR, gave expression to the generous sentiments of the Opposition. Mr. A. HENDERSON spoke for the Labour Party, Mr. T. P. O'CONNOR for the Nationalists, and Sir ALFRED THOMAS for the Welsh Members. The House then adjourned.

New-born Children (Protection) Bill.

Lord ROBERT CECIL has introduced into the House of Commons a Bill "to provide for the better protection of the lives of new-born children."

Scottish Vital Statistics.

During the Easter recess the report of the Registrar-General on the births, deaths, and marriages in Scotland during 1907 was published. The population of the country was estimated at 4,776,053. The birth-rate for the year, 26·97, is the lowest yet recorded in Scotland. In 1906 it was 27 9 per 1000 of the estimated population. The death-rate for the year was 16·18 per 1000.

HOUSE OF COMMONS.

TUESDAY, APRIL 28TH.

Medical Women as Medical Referees.

Mr. STANGER asked the Secretary of State for the Home Department whether he could give any estimate of the number of female workpeople, including domestic servants, who, in the United Kingdom, came under the provisions of the Workmen's Compensation Act, 1906; and whether he had placed, or was intending to place, any duly qualified female medical practitioners on the lists of persons to act as medical referees or medical assessors under that Act, so that female workpeople making claims under the Act might, where the county court judge allowed it, have the services of a female medical practitioner.—Mr. GLADSTONE replied: It is estimated that the number of female employees who come within the Act is approximately three millions. The question of appointing medical women to act as medical referees in cases where women are concerned is one of much administrative difficulty. It has been carefully considered, but I have not seen my way to make any such appointments at present. There were only two references to medical referees in women's cases during the year 1907. I should always be ready to consider an application by a county court judge for the *ad hoc* appointment of a medical woman to act as referee in a particular case where the circumstances were exceptional.

The Dairies, Cowsheds, and Milkshops (Ireland) Order.

Mr. HUGH BARRIE asked the Chief Secretary to the Lord Lieutenant of Ireland whether, having regard to the fact that the Dairies, Cowsheds, and Milkshops (Ireland) Order, 1908, was compulsory, and that its provisions were for the purpose of improving the general health of the community and assisting to stamp out the disease of tuberculosis, he would urge upon the Government the necessity of contributing one-half of the cost of giving effect to the Order.—Mr. BIRRELL sent the following written reply: The answer is in the negative. There is no reason why the Government should contribute one-half of the cost of giving effect to the Order in question, that would not equally apply to the case of every Order which aims at improving the general health of the community.

A Standard for Food Preservatives.

Mr. FIELD asked the President of the Local Government Board whether, owing to the absence of any standard for preservatives in food and the consequent confusion prevailing in the public mind, he would be prepared to incorporate in the regulations he was now drafting under the powers conferred upon him by the Public Health (Regulation of Foods) Act, 1907, a clause fixing such standard, and thereby give practical effect to the recommendations of the Departmental Committee of 1900.—Mr. BURNS (by written answer) replied: In view of the importance of public health and trade interests concerned regulations dealing with preservatives in food generally could not be made without considerable preliminary inquiry or without supplementing the investigations of the Departmental Committee in various directions. In these circumstances it has not been found practicable to include regulations on this subject in the series now in preparation, but I have not lost sight of the matter and have already directed inquiries to be made with regard to the present position of preservatives in certain foodstuffs.

WEDNESDAY, APRIL 29TH.

The Royal College of Surgeons in Ireland.

Sir WILLIAM COLLINS asked the Chief Secretary to the Lord Lieutenant of Ireland whether he had considered a memorial from the Royal College of Surgeons in Ireland praying that that body might become a constituent college in the new university to be established in Dublin; and whether he would be prepared to advise the inclusion of that College within the university.—Mr. T. W. RUSSELL (on behalf of Mr. BIRRELL) replied: It is not intended to make the Royal College of Surgeons in Ireland a constituent College of the proposed new university in Dublin.

Sir WILLIAM COLLINS asked whether further representations on the subject would be considered.—Mr. T. W. RUSSELL replied that he had no doubt that any representations coming from the College would receive due consideration.

BOOKS, ETC., RECEIVED.

APPLETON, SIDNEY, London.

Medical Gynecology. By Howard A. Kelly, A.B., M.D., LL.D., F.R.C.S. (Hon. Edinb.), Professor of Gynecological Surgery in the Johns Hopkins University, and Gynecologist to the Johns Hopkins Hospital, Baltimore. Price 25s. net.

ARNOLD, EDWARD, 41 and 43, Maddox-street, London, W.

Movable Kidney, its Pathology, Symptoms, and Treatment. By Harold W. Wilson, M.B., B.S. Lond., F.R.C.S. Eng., Demonstrator of Anatomy and Chief Assistant in the Surgical Out-patient Department, St. Bartholomew's Hospital; late Luther Holden Research Scholar; and C. M. Hinds Howell, M.A., M.B., B.Ch. Oxon., M.R.C.P. Lond., Junior Demonstrator of Physiology, late Casualty Physician, St. Bartholomew's Hospital; Pathologist, late Registrar, to National Hospital for the Paralysed and Epileptic. Price 4s. 6d. net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, London, W.C.

Aids to Ophthalmology. By N. Bishop Harman, M.A., M.B. Cantab., F.R.C.S. Eng., Ophthalmic Surgeon to the Belgrave Hospital for Children; Chief Clinical Assistant, Royal London Ophthalmic Hospital, Moorfields; Senior Ophthalmic Assistant, the Middlesex Hospital. Fourth edition. Price, paper, 2s.; cloth, 2s. 6d. net.

Clinical Lectures on the Surgical Diseases of the Urinary Organs. By P. J. Freyer, M.A., M.D., M.Ch., Surgeon to King Edward VII.'s Hospital for Officers, and to St. Peter's Hospital; Consulting Surgeon to Queen Alexandra's Military Hospital; late Examiner in Surgery at the Durham University; Lieut.-Colonel, Indian Medical Service (retd.). Price 12s. 6d. net.

BLACK, ADAM AND CHARLES, Soho-square, London.

Home Nursing and Hygiene. By Florance Hufton-Windust (Diplomée), late Senior Lecturer on Home Nursing, &c., for the Surrey County Council; late Hospital Sister and Superintendent of Nurses. Price 1s. net.

Cancer: Relief of Pain and Possible Cure. By Skene Keith, M.B., F.R.C.S. Ed., and George E. Keith, M.B., C.M. Price 2s. 6d. net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.

Hernia, its Cause and Treatment. By R. W. Murray, F.R.C.S., Surgeon, David Lewis Northern Hospital, Liverpool; late Surgeon, Liverpool Infirmary for Children. Price 4s. 6d. net.

FISCHER, GUSTAV, Jena.

Allgemeine Chirurgie in 50 Vorlesungen. Kurzgefasstes Lehrbuch für Aerzte und Studierende. Von Prof. Dr. Edmund Leser, Halle a.S. Zweite umgearbeitete Auflage. Price M.18; bound, M.20.

Beiträge zur Pathologie des Stoffwechsels bei Psychosen. Erster Teil: Die progressive Paralyse. (Aus der Universitäts-Nervenklinik in Halle a.S. Direktor: Geh. Med.-Rat Prof. Dr. Anton.) Von Dr. Max Kauffmann, Privatdozent für Psychiatrie und Neurologie an der Universität Halle a.S. Price M.6.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, Exeter-street, Strand, London, W.C.

Infancy and Infant-rearing: An Introductory Manual. By John Benjamin Hellier, M.D. Lond., M.R.C.S. Eng., Professor of Obstetrics in the University of Leeds; Honorary Obstetric Physician to the General Infirmary at Leeds; Consulting Physician to the Leeds Maternity Hospital; Examiner appointed by the Central Midwives Board. Second edition, revised. Price 3s. 6d.

Tropical Medicine, Hygiene, and Parasitology. A Handbook for Practitioners and Students. By Gilbert E. Brooke, M.A. Cantab., L.R.C.P. Edin., D.P.H., Port Health Officer, Singapore. Price 12s. 6d. net.

HAZELL, WATSON, AND VINEY, LIMITED, 52, Long Acre, London, W.C.

Mediterranean Winter Resorts. By Eustace Reynolds-Ball, F.R.G.S. Vol. II., North Africa and Mediterranean Islands. Sixth edition, revised, enlarged, and in part rewritten. Price 3s. 6d.

HIRSCHWALD'SCHE BUCHHANDLUNG, Under den Linden, 68, Berlin, N.W.

Die Grundlaute der Menschlichen Sprache und ein Universalalphabet. Von Leo Morochowetz, o. Professor der Physiologie und Direktor des physiologischen Institute der K. Universität zu Moskau. Price M.2.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND, 30, Bloomsbury-square, London, W.C.

A List of Official Chemical Appointments. Compiled by Direction of the Council of the Institute of Chemistry and under the Supervision of the Proceedings Committee. By Richard B. Pilcher, Fellow of the Chartered Institute of Secretaries, Registrar and Secretary of the Institute of Chemistry. Second edition, revised and enlarged. Price 2s. net; post free, 2s. 3d.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.

Treatment of Internal Diseases. For Physicians and Students. By Dr. Norbert Ortner of the University of Vienna. Edited by Nathaniel Bowditch Potter, M.D., Visiting Physician to the New York City Hospital, to the French Hospital, and to the Hospital for Ruptured and Crippled; Instructor in Medicine, Columbia University. Translated by Frederic H. Bartlett, M.D., from the Fourth German Edition. Price 21s. net.

Tuesday.—2.15 p.m., Dr. R. T. Hewlett: Medicine. 2.30 p.m., Operations. 3.15 p.m., Mr. Carless: Surgery. 4 p.m., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Skin.

Wednesday.—2.15 p.m., Dr. F. Taylor: Medicine. 2.30 p.m., Operations. 3.30 p.m., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 a.m., Surgical and Medical, 11 a.m., Eye.

Thursday.—2.15 p.m., Dr. G. Rankin: Medicine. 2.30 p.m., Operations. 3.15 p.m., Sir W. Bennett: Surgery. 4 p.m., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 a.m., Surgical and Medical 12 noon, Ear and Throat. 3.15 p.m., Special Lecture:—Sir W. Bennett.

Friday.—2.15 p.m., Dr. R. Bradford: Medicine. 2.30 p.m., Operations. 3.15 p.m., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Skin.

Saturday.—2.30 p.m., Operations. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 11 a.m., Eye.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (4th).—London (2 p.m.), St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), St. George's (2 p.m.), St. Mary's (2.30 p.m.), Middlesex (1.30 p.m.), Westminster (2 p.m.), Chelsea (2 p.m.), Samaritan (Gynæcological, by Physicians, 2 p.m.), Soho-square (2 p.m.), City Orthopædic (4 p.m.), Gt. Northern Central (2.30 p.m.), West London (2.30 p.m.), London Throat (9.30 a.m.), Royal Free (2 p.m.), Guy's (1.30 p.m.), Children, Gt. Ormond-street (9 a.m.), St. Mark's (2.30 p.m.), West London (2.30 p.m.).

TUESDAY (5th).—London (2 p.m.), St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), Guy's (1.30 p.m.), Middlesex (1.30 p.m.), Westminster (2 p.m.), West London (2.30 p.m.), University College (2 p.m.), St. George's (1 p.m.), St. Mary's (1 p.m.), St. Mark's (2.30 p.m.), Cancer (2 p.m.), Metropolitan (2.30 p.m.), London Throat (9.30 a.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Throat, Golden-square (9.30 a.m.), Soho-square (2 p.m.), Chelsea (2 p.m.), Central London Throat and Ear (2 p.m.), Children, Gt. Ormond-street (9 a.m. and 2 p.m.; Ophthalmic, 2 p.m.), Tottenham (2.30 p.m.).

WEDNESDAY (6th).—St. Bartholomew's (1.30 p.m.), University College (2 p.m.), Royal Free (2 p.m.), Middlesex (1.30 p.m.), Charing Cross (3 p.m.), St. Thomas's (2 p.m.), London (2 p.m.), King's College (2 p.m.), St. George's (Ophthalmic, 1 p.m.), St. Mary's (2 p.m.), National Orthopædic (10 a.m.), St. Peter's (2 p.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Gt. Northern Central (2.30 p.m.), Westminster (2 p.m.), Metropolitan (2.30 p.m.), London Throat (9.30 a.m.), Cancer (2 p.m.), Throat, Golden-square (9.30 a.m.), Guy's (1.30 p.m.), Royal Ear (2 p.m.), Royal Orthopædic (3 p.m.), Children, Gt. Ormond-street (9 a.m. and 9.30 a.m., Dental, 2 p.m.), Tottenham (Ophthalmic, 2.30 p.m.), West London (2 30 p.m.).

THURSDAY (7th).—St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), University College (2 p.m.), Charing Cross (3 p.m.), St. George's (1 p.m.), London (2 p.m.), King's College (2 p.m.), Middlesex (1.30 p.m.), St. Mary's (2.30 p.m.), Soho-square (2 p.m.), North-West London (2 p.m.), Gt. Northern Central (Gynæcological, 2.30 p.m.), Metropolitan (2.30 p.m.), London Throat (9.30 a.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Throat, Golden-square (9.30 a.m.), Guy's (1.30 p.m.), Royal Orthopædic (9 a.m.), Royal Ear (2 p.m.), Children, Gt. Ormond-street (9 a.m. and 2 p.m.), Tottenham (Gynæcological, 2.30 p.m.), West London (2.30 p.m.).

FRIDAY (8th).—London (2 p.m.), St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), Guy's (1.30 p.m.), Middlesex (1.30 p.m.), Charing Cross (3 p.m.), St. George's (1 p.m.), King's College (2 p.m.), St. Mary's (2 p.m.), Ophthalmic (10 a.m.), Cancer (2 p.m.), Chelsea (2 p.m.), Gt. Northern Central (2.30 p.m.), West London (2.30 p.m.), London Throat (9.30 a.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Throat, Golden-square (9.30 a.m.), City Orthopædic (2.30 p.m.), Soho-square (2 p.m.), Central London Throat and Ear (2 p.m.), Children, Gt. Ormond-street (9 a.m., Aural, 2 p.m.), Tottenham (2 30 p.m.), St. Peter's (2 p.m.).

SATURDAY (9th).—Royal Free (9 a.m.), London (2 p.m.), Middlesex (1.30 p.m.), St. Thomas's (2 p.m.), University College (9.15 a.m.), Charing Cross (2 p.m.), St. George's (1 p.m.), St. Mary's (10 a.m.), Throat, Golden-square (9.30 a.m.), Guy's (1.30 p.m.), Children, Gt. Ormond-street (9 a.m. and 9.30 a.m.), West London (2.30 p.m.).

At the Royal Eye Hospital (2 p.m.), the Royal London Ophthalmic (10 a.m.), the Royal Westminster Ophthalmic (1.30 p.m.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editor," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of The Lancet at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach The Lancet Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to The Lancet Offices.

Subscribers, by sending their subscriptions direct to The Lancet Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The Colonial and Foreign Edition (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from The Lancet Offices or from Agents, are:—

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. Charles Good, The Lancet Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

Subscribers abroad are particularly requested to note the rates of subscriptions given above. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of The Lancet necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of The Lancet have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—The Manager, The Lancet Offices, 423, Strand, London, England.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

The Lancet Office, April 30th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 24	29 39	N.W.	0·45	91	42	32	32	34	Cloudy
" 25	29 43	E.	0·07	65	46	34	36	39	Overcast
" 26	29 54	W.	0·14	103	51	35	39	39	Fine
" 27	29 74	S.W.	...	80	52	39	43	46	Cloudy
" 28	29 71	S.E.	0·24	57	50	46	46	47	Overcast
" 29	29 95	W.	0·46	101	62	47	49	50	Overcast
" 30	30 20	S.W.	0·14	61	53	50	51	52	Raining

During the week marked copies of the following newspapers have been received:—*Westminster Gazette, Glasgow Evening Times, Aberdeen Evening Express, Bristol Mercury, South Wales Echo, Manchester Chronicle, Aberdeen Journal, Lincolnshire Echo, Sunderland Echo, South Wales Daily News, Midland Weekly News, Law Times, Yorkshire Telegraph, Yorkshire Post, South Leeds Daily News, Somerset Weekly Gazette, Pall Mall Gazette, &c.*

Notes, Short Comments, and Answers to Correspondents.

THE NEEDS OF LONDON MEDICAL STUDENTS.

Mr. F. W. Collingwood has forwarded to us a pamphlet which he tells us will be circulated amongst London medical students at the commencement of the coming summer session. It rehearses the position of the Conjoint Diplomate with regard to his disability to assume the title of "Doctor" after passing examinations similar to those which at other centres would have entitled him to the designation of "M.D." The opinions on the matter which have been expressed by Sir W. H. Allchin, Professor W. Osler, and the Ethical Committee of the British Medical Association are quoted, and the circular concludes thus:—"Therefore, urge your teachers to move in this matter, which so materially affects your future welfare and position as practitioners of medicine, and petition the Minister of Education, Whitehall, S.W., on the subject, so that your grievances may be fully known and attended to by any forthcoming commission which will probably sit and report upon the whole question of medical education in London."

LONGEVITY AT BRIGHTON.

To the Editor of THE LANCET.

SIR,—One or two mistakes appear in my letter which you published in your issue of April 18th, p. 1188, and for the sake of accuracy I should be obliged if you will kindly allow me to correct them. Charles Green's ("Old Evergreen") age was 107; Captain W. Skipwith (not "Sitwell"). As a student of everything appertaining to Brighton I recently came upon this note in a short history of Brighton written by Anthony Relhan, M.D., in 1761, and this may perhaps account for the remarkable purity and invigorating properties of the Brighton air:—

> Chalky ground has little or no perspiration and therefore must be extremely healthy. The ground of this soil does not crack nor the grass burn so soon as in other soils. This is perhaps partly owing to the reflecting power of the chalk, partly to the declivity of the hills and yet in wet weather it sooner grows dry so that you may immediately ride after heavy rains without the least inconveniency. Hence it follows that in this soil there can be no marshy swampy ground excepting in such places as border on rivers. Now as the nearest river to this town is really six miles distant and as this is a circumstance peculiar to itself, no other maritime town in England being equally remote from one, I may venture to affirm that the soil here is extremely dry and that the air of this place must be proportionably pure.

I am, Sir, yours faithfully,
J. P. BACON-PHILLIPS.
Crowhurst Rectory, Sussex, April 20th, 1908.

PS.—Mrs. Taylor, widow of the late Mr. Peter Taylor, M.P., died at Brighton the week before last in her ninety-eighth year. She had lived at Brighton for 17 years.—J. P. B.-P.

AN INTERESTING PROSECUTION.

A MAN named Mortimer has been committed for trial at Swansea and has since been taken before the magistrates at Exeter and remanded, complaints having also been made with regard to him at Abergavenny. The charges against him are based upon representations said to have been made by him that he could cure various forms of disease, and it was alleged by witnesses at Exeter that he had obtained from them sums of £8 15*s.* and £4 10*s.* by statements with regard to his power to heal. We do not propose to say more upon the subject while the cases involved are *sub judice*, but the further proceedings will be watched by members of the medical profession with interest, and whatever may be their result with regard to Mortimer they should have some bearing upon the claims to heal made by others who have no qualification to do so and upon the circumstances in which criminal proceedings may be taken against such persons with a prospect of success.

BAGNOLES DE L'ORNE.

To the Editor of THE LANCET.

SIR,—I should be obliged if, in your "Answers to Correspondents," you or readers of THE LANCET would inform me as to the suitability of "Bagnoles de l'Orne" in Brittany for treatment of varicose veins in the leg and more especially for recurrent attacks of phlebitis, probably gouty in nature. Also as to the best time to go there and the length of treatment usually given.

I am, Sir, yours faithfully,
DYED GALLINA.
April 27th, 1908.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

WEDNESDAY.

NEUROLOGICAL SECTION (Hon Secretaries—Leonard G. Guthrie, E. Farquhar Buzzard): at 8.30 P.M.

Papers:

Sir William Gowers, F.R.S: The Mechanism of Nystagmus.

Dr. E. Farquhar Buzzard: A Note on the Occurrence of Muscle Spindles in Ocular Muscles.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries—Raymond Johnson, A. E. Garrod): at 8.30 P.M.

Cases:

Mr. Watson Cheyne: Spontaneous Disappearance of Recurrent Carcinoma of Breast.

Sir Thomas Barlow and Mr. C. A. Ballance: Suture of the Brachial Plexus for Birth-palsy.

Dr. Purves Stewart: Meningo-cortical Lesion illustrating Astereognosis.

Dr. J. Barnes Burt: Three Cases of Gout showing Destructive Changes in Bone.

Mr. C. H. Fagge: (1) A Case in which for Recurrent Sarcoma Parts of the Femoral Artery and Vein were Excised; (2) A Case of Aneurysm of the Common Femoral Artery, Excision of Aneurysm and of the Common Femoral Vein.

Dr. G. A. Sutherland: Scleroderma.

Mr. Albert Carless: Multiple Diffuse Lipomata.

Mr. P. Maynard Heath: Caries of Spine with Clubbing of Fingers and Toes.

The Cases will be in attendance at 8 p.m.

Short Papers:

Mr. C. A. Ballance: A Case of Arterio-venous Anastomosis for Senile Gangrene.

Dr. Norman Dalton: A Case of Leucoderma dying with Symptoms of Addison's Disease.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.—At the next Meeting, to be held on May 14th, a paper by Dr. R. H. Paramore on "The Supports of the Female Pelvic Viscera" will form the basis of a discussion on this subject. The paper will not be read in full, but will be printed beforehand and copies may be obtained on application to the Honorary Secretaries, 20, Hanover-square.

ELECTRO-THERAPEUTICAL SECTION.—The next meeting take place on May 22nd in the Rooms of the Royal Philosophi Society, Glasgow. Members who wish to attend and who des to avail themselves of local hospitality should communic with Dr. Reginald Morton, honorary secretary, in order t the necessary arrangements may be made in good time.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wale General Hospital, Tottenham, N.

THURSDAY.—4.15 p.m., Clinical Cases.

HARVEIAN SOCIETY OF LONDON, Paddington Green Childre Hospital.

THURSDAY.—8.30 P.M., Clinical Evening.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDO 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Mr. E. E. Henderson, Mr. E. Green, Mr. Hailes, and Mr. J. H. Tomlinson: Card Specimens. Dr. Fergus: Ptosis Operations. Mr. E. Clarke and Sir A. Wrigh Tubercle of the Choroid cured by Tuberculin. Mr. E. Clarl and Mr. S. Mayou: Tubercle of the Iris cured by Tubercul Mr. P. E. H. Adams: An Epidemic of Contagious Conjun tivitis due to the Pneumococcus. Dr. G. Mackay: (1) A Ca of Arterio-venous Aneurysm treated by Ligature of the Commo Carotid; (2) A Case of Phlyctenular Keratitis and Pustul Episcleritis treated by Antistaphylococcic Injections.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 1 Chandos street, Cavendish-square, W.

FRIDAY.—5 P.M., Dr. O. K. Williamson, Dr. Carpenter, Dr. F Parkinson, Mr. Lett, Mr. R. Howard, and others: Cases an Specimens. Dr. W. Ewart: The Empty Bronchus Treatmen by Posture in the Bronchiectasis of Children.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 2 Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Sir William Collins: Some Tendencies in Moder Medicine.

TUESDAY.—4 P.M., Dr. J. Taylor: Clinique (Medical). 5.15 P.M., Lecture:—Dr. H. Campbell: Jacksonian Epilepsy.

WEDNESDAY.—4 P.M., Mr. J. Clarke: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. E. T. Collins: Convergent Strabismus.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Sir Malcolm Morris: Pruritus Ani.

FRIDAY.—4 P.M., Mr. S. Stephenson: Clinique (Eye).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Mr. L. A. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. Special Lecture:—2.15 P.M., Sir Dyce Duckworth: Hæmatemesis.

The Goulstonian Lectures

ON

THE INFLUENCE OF PREGNANCY UPON CERTAIN MEDICAL DISEASES, AND OF CERTAIN MEDICAL DISEASES UPON PREGNANCY.

Delivered before the Royal College of Physicians of London on March 17th, 19th, and 24th, 1908,

BY HERBERT FRENCH, M.A., M.D. OXON., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO GUY'S HOSPITAL.

LECTURE II.[1]

Delivered on March 19th.

OTHER SUPPURATIVE RENAL AFFECTIONS IN RELATION TO PREGNANCY.—TUBERCULOUS AND CALCULOUS DISEASES.

MR. PRESIDENT AND GENTLEMEN,—The pyelonephritis which pregnancy itself gives rise to having been discussed, there remain two other suppurative renal affections to be mentioned. These are the various degrees of kidney mischief that may be due to stone and to tuberculosis respectively. There is little evidence to show that pregnancy is itself liable to give rise to either of these, and in the case of a tuberculous kidney the patient is, as a rule, so invalided that pregnancy is but rarely to be found associated with it. There has been no case of pregnancy coincident with tuberculous kidney in Guy's Hospital in the last 20 years. With renal calculus, on the other hand, the symptoms may be in abeyance for longer or shorter periods and the patient is not necessarily such an invalid that pregnancy may not occur. The question will then arise as to what the effect upon the kidney is likely to be in such a case. It is clear that if a previously healthy woman may develop pyelonephritis during pregnancy, as described in the previous lecture, a woman who already has a lesion which also predisposes to pyuria must be in a position of increased danger when pregnancy occurs. On the other hand, the degree to which the kidney, or kidneys, may be already damaged by the calculi is so extremely variable that it is almost impossible to say what is going to happen when such a case comes under observation. If the calculus is a small one confined to the renal pelvis, the general substance of the kidney being but little affected, it is quite possible for the pregnancy to run its course without any trouble arising from it at all. If the stones are confined to one kidney and have led to its conversion into a hydronephrotic bag the other kidney may have hypertrophied by way of compensation, and the effect of pregnancy will be similar to that in cases where, after operation, only one kidney is left—a point to be mentioned again below.

Colic and hæmaturia may occur in either of these cases, just as they may in non-pregnant persons. Treatment should then be directed to the renal condition, and the probability is that the untoward symptoms will subside and that the pregnancy will run its natural course, as was the case in six out of seven patients in the hospital. On the other hand, a patient with a renal calculus that is already causing suppurative inflammation of the kidney is bound to be a source of grave anxiety to her medical attendant should she become pregnant, especially from the fifth month onwards, that is to say during the time when there is particular liability for the pregnancy itself to cause pyelonephritis. It is doubtless possible by keeping the patient at rest, by preventing constipation or diarrhœa, and by administering anti-pyuric remedies, to enable her to reach her full term of pregnancy; but there are cases in which the suppuration in the kidney will become worse, and the question will arise as to whether or not obstetric measures for terminating the pregnancy should be advised. One of the seven cases alluded to above proved fatal; it may probably be regarded as one in which pregnancy was the main cause of death by leading to a pyelonephritis upon the top of calculous disease. The following are brief details of the case:—

The patient was a young woman who had had pain in her right loin which in view of the subsequent events was doubtless due to a calculus. She was otherwise in excellent health. She married and remained well until she was five and a half months pregnant. She then began to suffer from aching pains across her loins and from repeated vomiting. There was no œdema but the urine was found to contain 5 parts per 1000 of albumin, with a fair number of renal tube casts, red corpuscles, and a considerable excess of leucocytes. Day by day the leucocytes in the urine became more numerous until they amounted to pus, and the quantity of pus rapidly increased until there was no doubt about there being a progressive suppurative nephritis. No tubercle bacilli were found in the deposit. The urea still amounted to 1·7 per cent., but the patient became steadily worse, vomiting on the slightest exertion and after all food. There was no pyrexia such as there nearly always is in cases of ordinary pyelonephritis of pregnancy and there were no rigors. The bladder became infected by acute cystitis and the question of recommending obstetric measures for emptying the uterus had arisen, when spontaneous delivery of a living female child occurred at the seventh month. The patient's general condition improved for three days afterwards, though no day passed without the occurrence of vomiting. The latter then increased in severity; drowsiness with muttering delirium and hallucinations set in, with incontinence of urine; and on the fifth day after labour the patient became comatose and died without convulsions.

At the necropsy the only abnormal organs were the kidneys and the bladder. The uterus was perfectly healthy. Both kidneys were in a state of pyonephrosis, with secondary suppurative pyelonephritis, and in the pelvis of each there were numerous irregular calculi of oxalate of lime coated with white phosphates. The ureters were but slightly dilated. The bladder was in a condition of acute cystitis without ulceration.

Apparently the sequence of events had been: renal calculi, hydronephroses, pregnancy, microbial infection of the kidneys, pyonephroses, suppurative pyelonephritis, cystitis, uræmia, death. Unfortunately no exhaustive bacteriological examinations of the urine were made. One would not be surprised, in view of what has been already said in connexion with the pyelonephritis of pregnancy, if the micro-organism had been the bacillus coli communis in pure culture. This is a point for investigation in future cases.

NON-SUPPURATIVE RENAL AFFECTIONS IN RELATION TO PREGNANCY.

We may now pass on to consider the non-suppurative lesions of the kidney in their relation to pregnancy, and although these constitute a very big subject, and one which might easily occupy many lectures, it will be best to touch only upon a few points of it here because there is already a great deal of literature upon the matter, much of which is easily accessible to all.

There is still a good deal of discrepancy in the views held by different observers as to the nature of the lesions in question, for whereas some pathologists describe them as inflammatory others insist that they are not so but are rather acute toxic degenerations of the renal cells.

Clinical groups.—Clinically there are three quite distinct groups of cases which some would distinguish from one another in kind as well as in type. 1. The cases in which renal mischief of the nature of Bright's disease has been known to exist previously to pregnancy. 2. The cases in which, previously to pregnancy, the urine was perfectly healthy and no previous attack of Bright's disease had occurred; but in whom during pregnancy, and beginning, as a rule, at or before the middle of the pregnancy, puffiness of the ankles, back, and eyelids appears, the urine at the same time becoming less in quantity and containing albumin, renal tube casts, and possibly blood, in a way which closely simulates ordinary acute Bright's disease. For the sake of brevity these are referred to as the "œdema cases." 3. The cases in which the patient has seemed to be in perfect health until the later months of pregnancy, or even until immediately after labour, and then without much warning and usually with only slight evidences of œdema develops the well-known symptoms of puerperal eclampsia. It is not at all improbable that there is a fourth clinical variety of renal disease that has a relationship to pregnancy—namely, the granular contracted kidney. It is very difficult to prove or to disprove this, because even if a granular contracted kidney in a given case owes its inception to renal trouble arising during pregnancy the patient can still continue to live for many years without untoward symptoms, and by the time death occurs there will be nothing in the post-mortem examination to show either how long the renal mischief has been present or how this mischief first began.

Recurrent obstruction to ureters is a potent cause of renal fibrosis and it is conceivable that many successive pregnancies may lead to sclerosis of the kidneys without there having been any of the symptoms of acute Bright's disease. I have accumulated some evidence to show that not only pregnancy but also pathological affections of the pelvic organs, such as prolapse of the uterus, may lead to fibrotic kidneys, with hypertrophy of the left ventricle of the heart, and all the other changes that are usually associated with

---

[1] Lecture I. was published in THE LANCET of May 2nd, 1908, p. 1257.

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Messrs. C. Ash, Sons, and Co., Lond.

B.—Mr. J. W. Benson, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Bovril, Ltd., Lond.; Dr. Beamish, Ballinhassig; Dr. F. G. Bushnell, Brighton; Mr. Aslett Baldwin, Lond.; Dr. G. Burnside Buchanan, Glasgow; Dr. Comyns Berkeley, Lond.; Messrs. Braun and Co., Lond.; Messrs. C. Bogler and Co., Lond.; Mr. T. B. Browne, Lond.; Mr. J. B. Barber, Lancaster; *The British Food Journal*, Lond., Editor of.

C.—Dr. Aldo Castellani, Colombo; Messrs. Connell and Bailey, Stockport; The Hon. Stephen Coleridge, Lond.; Mr. Francis Clark, Lond.; C. F.; Major L. P. Colat, Tsivory, Madagascar; Messrs. E. Cook and Co., Lond.; Co-Partnership Tenants' Housing Council, Lond., President of; Children's Country Holidays Fund, Lond.; Mr. Frederick W. Collingwood, Lond.; Dr. O. J. Currie, Maritzburg; Messrs. Samson, Clark and Co., Lond.; Messrs. Cassell and Co., Lond.; Crichton Royal Institution, Dumfries, Medical Superintendent of; Carlow District Lunatic Asylum, Clerk to the; Mr. F. W. Clarke, Chorlton-cum-Hardy; Continental Tyre and Rubber Co., Lond., Manager of.

D.—Dr. W. G. Dickinson, Lond.; Derbyshire Royal Infirmary, Derby, Secretary of; Denver Chemical Manufacturing Co., Lond., Secretary of; Mr. E. Bowen Davies, Exmouth; Mr. G. T. De Fraine, Aylesbury; Mr. W. H. P. Duggan, Lond.; Mr. L. Dudley, Lond.

E.—Messrs. Elliott and Fry, Lond.; Dr. Alfred Eddowes, Lond.

F.—Dr. Pedro Farreras, Madrid; Dr. Theodore Fisher, Sidcup; Dr. A. H. Frere, Pontrhydyfen; Mr. A. Fleming, Lond.; Fermanagh County Hospital, Enniskillen, Secretary of; Messrs. Fussell and Co., Lond.

G.—Dr. V. J. Glover, Waterloo; Messrs. Greening and Co., Lond.; Mr. H. Bellamy Gardner, Lond.; Mr. Kenneth Goadby, Lond.; Garden City Press, London Representative of; Glamorgan County Asylum, Bridgend, Clerk to the; Gt. Eastern Railway Co., Lond., Continental Traffic Manager of; Glasgow Corporation, Treasurer to the; Mr. T. Gill, Lancaster.

H.—Home Office, Lond.; Messrs. Hodder and Stoughton, Lond.; Huddersfield Corporation, Clerk to the.

I.—Invalid Children Aid Association, Lond., Secretary of; Messrs. Isaacs and Co., Lond.

J.—Dr. Oscar Jennings, Paris.

K.—Kettering and District General Hospital, Secretary of; Messrs. R. A. Knight and Co., Lond.; Messrs. Kutnow and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Dr. P. Ledresseur, Diekirch; Liverpool Corporation, Advertising Department, Superintendent of; Leicester Guardians, Clerk to the; M. Lafayette, Lond.; Mr. H. H. Langdon, New York; Mr. J. G. Leigh, Lond.

M.—Dr. J. M. H. Macleod, Lond.; Professor A. E. Mettam, Dublin; Midland Medical Society, Birmingham; Hon. Secretary of; Mr. K. M. Mackenzie, Brighton; Messrs. Morriss and Birch, Lond.; Messrs. Maple and Co., Lond.; Manchester Medical Agency, Secretary of; Mr. H. Macnaughton-Jones, Lond.; Messrs. C. Mitchell and Co., Lond.; Monmouthshire Education Committee, Newport, Director of; Miol Manufacturing Co., Lond.; Manchester Corporation, Clerk to the; Dr. R. O. Moon, Lond.

N.—Mr. L. Noon, Cambridge; Newcastle-on-Tyne Hospital for Sick Children, Secretary of; Nottingham City Asylum, Clerk to the; Northern Estate Corporation, Manchester; Nottingham General Hospital, Secretary of; Messrs. Newton and Co., Lond.; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Mr. C. H. Östrand, Gothenburg; Ozonair, Ltd., Lond.

P.—Dr. A. R. Parsons, Dublin; Messrs. Paiba and Paiba, Lond.; Messrs. B. K. Paul and Co., Calcutta; Parish of St. Giles, Camberwell, Clerk of; Messrs. Peacock and Hadley, Lond.

R.—Mr. Owen Richards, Cairo; Dr. R. Robertson, Buxton; Royal Surrey County Hospital, Guildford, Secretary of; The Rover Co., Coventry, Secretary of; Royal Sanitary Institute, Lond., President and Council of; Dr. Beverley Robinson, New York; Messrs. Reynolds and Branson, Leeds.

S.—Dr. D. W. Samways, Mentone; South Devon and East Cornwall Hospital, Plymouth, Secretary of; Stepney Spare Motor Wheel, Llanelly, Secretary of; Messrs. Sykes, Josephine, and Co., Lond.; Messrs. G. Street and Co., Lond.; Messrs. A. de St. Dalmas and Co., Leicester; Swansea General Hospital, Secretary of; Sheffield Guardians, Clerk to the; Professor Dr. Schlossmann, Düsseldorf; Miss A. M. Simpson, Deganwy; Mr. J. Spottiswoode, Lond.; Dr. Agnes F. Savill, Lond.; Dr. Thomas D. Savill, Lond.; Mr. Nathan Straus, Lond.; Star Engineering Co., Wolverhampton; Salford Royal Hospital, Secretary of; Scholastic, Clerical, &c., Association, Lond.; Dr. Oliver Smith, Great Yarmouth; Society for the State Registration of Trained Nurses, Lond.

T.—Nurse M. Turnbull, Lond.; Dr. Margaret Todd, Mark Cross; Mr. S. Thrower, Lond.

U.—Mr. Charles Urban, Lond.

V.—Dr. Francis Villy, Keighley; Messrs. J. W. Vickers and Co., Lond.

W.—Dr. W. H. Willcox, Lond.; Mr. E. H. Worth, Lond.; Messrs. John Wiley and Sons, New York; Messrs. F. Williams and Co., Lond.; Messrs. Whitbread and Co., Lond.; Wolverhampton, General Hospital, Secretary of; Mr. A. Wander, Lond.; Messrs. Willing, Lond.; Dr. Leonard Williams, Lond.

Y.—Messrs. Douglas Young and Co., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Ardath Tobacco Co., Lond.; Mr. H. Abraham, Southampton; Dr. S. Agnew, Lurgan; A. A.; Mr. E. Arnold, Lond.; A. H. B.; Dr. J. G. Andrew, Glasgow; A. H. D.; A. B.; A. W.; A. J. D.; A. D. H.; Apollinaris Co., Lond.

B.—Mr. C. W. S. Boggs, Barkly East; Mrs. Behnke, Lond.; The Bayer Co., Lond.; Mr. W. Bain, Lond.; Messrs. Blundell and Rigby, Lond.

C.—Cheltenham General Hospital, Secretary of; C. E. B.; Messrs. Carnrick and Co., Lond.

D.—Dr. D. Donald, Aldershot; Messrs. Duncan, Flockhart, and Co., Lond.; Mrs. Duer, Lond.; Messrs. Down Bros., Lond.

E.—Mr. J. Evans, St. Tudy; Egyptian Government, Cairo, Director-General State Accounts; E. K. E.; East Suffolk County Council, Ipswich, Clerk to the; E. D.

F.—Mr. R. Favell, Sheffield; F. J. R. C.; F. R. H. M.

G.—Guardian Assurance Co., Lond., Assistant Manager of; Messrs. C. Griffin and Co., Lond.; Greenock Infirmary, Secretary of.

H.—Dr. H. K. Hirose, Okayama; Mr. W. A. Hubert, Billingshurst; Dr. W. D. Hamilton, Columbus, U.S.A.; Dr. W. Hunter, Lond.; Messrs. C. J. Hewlett and Son, Lond.; Hastings and St. Leonards Hospital, Secretary of; H. W.; Messrs. T. Holland and Son, Lond.; H. S.; Mrs. Higgs, Oldham; Mr. C. H. Harding, Whittlesea.

J.—Messrs. W. and A. K. Johnston, Edinburgh; J. H.; J. F. W.; J. M.

K.—Messrs. C. Knight and Co., Lond.; *Kentish Express*, Ashford, Manager of.

L.—Leicester Infirmary, Secretary of; Locum, Swaffham.

M.—Dr. W. L. Mackenzie, Edinburgh; Mr. E. Merck, Lond.; Dr. E. R. Morton, Lond.; Dr. G. MacDonald, Ruabon; Drs. Mayo and Graham, Rochester, U.S.A.; Lieutenant J. Morison, I.M.S., Dilkusha; Mr. W. E. Miles, Lond.; Mr. R. Mosse, Berlin; Dr. H. W. G. Macleod, Lond.; Mr. D. Macdonald, Cilfynydd; Messrs. Manlove, Alliott, and Co., Nottingham; M. T.; Maltine Manufacturing Co., Lond.; Manchester Hospital for Consumption, Secretary of; Dr. Manchester, Oneonta, N.Y., U.S.A.; Mr. J. E. May, Lond.; Mr. A. Martin, Grimsby; Merthyr Tydfil Corporation, Accountant to the; Manhu Food Co., Liverpool.

N.—Mr. B. Nightingale, Preston; N. H. G.; Dr. W. Nightingale, Leek; North-East London Post-Graduate College, Tottenham, Dean of.

P.—Miss M. E. Parkington, Eastbourne; Protene Co., Lond.; Parkfield, Burgess Hill; P. H. S.; Dr. P.

R.—Hon. Gladys Rice, Llandilo; Messrs. Roberts and Co., Lond.; R. L.; Dr. N. Raw, Liverpool; Mr. J. P. Roughton, Kettering; Dr. J. B. Ryley, Lond.

S.—Mr. T. Saunders, Dawlish; Messrs. Savory and Moore, Lond.; Mr. L. Stamm, Lond.; Messrs. W. H. Smith and Son, Southport; St George's Hospital Medical School, Lond.; Dean of; Sudan Medical Department, Khartoum, Director of; Scottish Poor-law Medical Officers' Association, Glasgow, Treasurer of; Mr. A. A. Swan, Blairgowrie.

T.—Mr. J. Thin, Edinburgh; T. J.; T. M. H.; Dr. H. A. Tillman, Hull.

U.—Union Reklame, Lucerne, Director of.

V.—V. A. N.

W.—Mr. J. Walser, Brighton; Mrs. Wiseman, Lond.; W. R. D.; Messrs. Wheatley, Dyson, and Son, Huddersfield; W. L.; Mr. A. H. Wade, Kingston Hill; Wonford House Hospital, Exeter, Treasurer to the; Messrs. W. J. Wilcox and Co., Lond.; Warneford Hospital, Oxford, Medical Superintendent of; W. H.; Messrs. H. Wilson and Son, Lond.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.			
One Year	£1	12	6
Six Months	0	16	3
Three Months	0	8	2

TO THE COLONIES AND ABROAD.			
One Year	£1	14	8
Six Months	0	17	4
Three Months	0	8	8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0	5	0
Official and General Announcements	Ditto	0	5	0
Trade and Miscellaneous Advertisements and Situations Vacant ...	Ditto	0	4	6
	Every additional Line	0	0	6

Situations wanted: First 30 words, 2*s.* 6*d.*; per additional 8 words, 6*d.*

Quarter Page, £1 10*s.* Half a Page, £2 15*s.* An Entire Page, £5 5*s.*

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to insure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 31, Rue Bapst, Asnières, Paris.

that which is usually referred to as such is the fibrosis which results from former acute or subacute inflammation, the inflammation itself having ceased long since. A similar misapplication is frequent in regard to valvular heart disease: valves which are crippled as the result of former endocarditis are often spoken of as being the site of chronic endocarditis, when what is really meant is fibrosis from former endocarditis, all actual inflammation being now past. Scarlet fever may cause nephritis which, instead of either resolving completely or leading comparatively soon to a fatal result, may leave behind it a fibrosis. It is not this lesion which is at present under discussion but the acute or subacute lesions which are on all hands allowed the title scarlatinal nephritis.

The kidney which may be found post mortem in such cases is very variable in its naked-eye appearances. Sometimes it is a large red blood-dripping organ, without much blurring of the structural outlines; sometimes it is a large pale kidney, with lack of clear definition between cortex and medulla; more often it is a combination of these two types, a large organ variously mottled with pallid and with crimson streaks and blotches, the general effect being in the direction of redness in some, in the direction of pallor in others, whilst sometimes there is about an equal proportion of redness and of pallor in the mottling. Granted time between the onset of the inflammation and the time of the patient's death, a variable degree of contraction of the kidney will have resulted, with unevenness of the surface owing to irregularity in the distribution of the fibrosis, the colour varying here again between pallor on the one hand and redness on the other as much as it does in the large kidneys of the earlier stages of the disease.

The microscopical changes are equally variable. Confining attention mainly to the acuter stages, the most striking feature is the obstruction and distension of the tubes, which are stuffed with epithelium, granular débris of cells, and often blood and fibrin; to the more or less obliteration of their channels. Sometimes the fibrin is so abundant as to occupy most of the tubes to the exclusion of their epithelial lining. Often the epithelium of whole groups of tubules seems to have undergone a sort of coagulation necrosis, the line of demarcation between each cell and its neighbour being no longer visible, and the nuclei no longer taking the ordinary stains. In the more protracted cases the peri-glomerular and inter-tubular connective tissue shares in the inflammatory process, displaying hypernucleation and proliferation of the connective tissue cells. The degree to which small round-celled infiltration occurs is extremely variable. Sometimes it is almost entirely absent, sometimes it is very obvious, particularly around the glomeruli and in the cortex. The patient may not die until, although there is still actual inflammation present in some places, in others there has been time for fibrosis to have occurred. In short, both the macroscopic and the microscopic appearances of kidneys that are the seat of scarlatinal nephritis are extremely variable, though it can scarcely be said that the different appearances constitute intrinsically different kinds in the inflammation. If any broad rule can be laid down it would be that the sooner after the onset the patient dies the more will the appearances be those of a coagulation necrosis of the epithelium; the longer the patient lives, supposing always that the renal mischief does not entirely resolve, the more will be the connective tissue change, first that of hypernucleation, and finally that of fibrosis.

If the description that has been given of the acute and subacute changes in the non-suppurative renal diseases of pregnancy be now recalled, it will be found that these are extremely similar to those that occur in connexion with scarlet fever. If the scarlatinal changes are to be termed nephritis then those associated with pregnancy are surely nephritis too. There have been in Guy's Hospital of recent years four fatal cases of the œdema type and 15 fatal cases of the eclamptic type of renal trouble in pregnancy out of a total of 71 cases of the former and 51 cases of the latter. There is little need to recount the changes that were found at the necropsies, because there is little to add to the descriptions already given above. If the kidneys themselves or microscopical sections of them had been mixed up amongst a large number of different scarlatinal nephritis kidneys and their sections, it would have been next to impossible to have gone through them and sorted the pregnancy kidneys from the scarlatinal. Large red, large mottled, large pale, contracting red, contracting mottled, and contracting pale kidneys were all represented, with a predominance of the large mottled and large pale kidneys in the eclampsia cases and of the contracting kidneys in the œdema cases. There were great variations in the microscopical appearances in different cases also. Sometimes cloudy swelling or coagulation necrosis of the epithelial cells in the cortex was the main thing; sometimes even in the eclampsia cases there was hypernucleation of the connective tissue as well. In the œdema cases there was a variable degree of fibrosis, mature and immature, which occasionally reached an extreme degree even in kidneys that were not very obviously contracted. It would seem that every kind of change which may be found in scarlatinal nephritis may also be found in these kidney affections of pregnancy. I therefore range myself with those who regard these kidney changes in pregnancy as essentially similar in kind to those which may occur in scarlet fever, and I believe that there is no intrinsic difference, but only one of degree and acuteness, between the renal changes in eclampsia cases and those in cases where renal œdema is a prominent symptom less late in the pregnancy.

The Cause of Pregnancy Nephritis.

It is not possible to say precisely what is the cause of the nephritis in pregnancy. It is generally believed to be a toxin—that is to say, a poison of unknown nature—elaborated during pregnancy. To term the changes in these pregnancy kidneys "toxic" does not imply that they are intrinsically different from those of scarlatinal nephritis, where the precise cause, being equally unknown, is termed toxic too. There are doubtless many different substances which can cause similar inflammatory lesions in the kidneys. Pneumococci have been recovered from these organs in cases of acute non-suppurative nephritis associated with lobar pneumonia. Streptococci have been recovered in a similar way from some scarlatinal nephritic kidneys. Cantharides, turpentine, and oxalic acid can cause very similar renal changes. It is more than likely that in certain cases pregnancy gives rise to a poison of some kind which in turn is the cause of the nephritis.

Nothing is really known as to why in some cases eclampsia should be the prominent feature, whilst in others œdema is marked and eclampsia absent, and whilst in yet others both occur. The parallel with scarlet fever nephritis still holds good in this respect, however. There are cases of scarlatinal nephritis in which œdema in entirely absent, and uræmic symptoms are the first to attract attention; whilst there are other cases in which œdema is a marked feature without uræmia. There is an admirable paper upon the subject by Dr. F. M. Turner.[2]

Notwithstanding all the work that has been done upon uræmia its pathology is still unknown. Of late years attention has been directed less exclusively to the kidneys in the study of the subject, and there is some evidence to show that the liver as well as the kidneys may play an important part in the origin of uræmic or eclamptic symptoms. The liver is nearly always abnormal in these cases, the chief changes being cloudy swelling, fatty change, and acute necrosis of the hepatic cells. It would not be surprising if the liver condition had something to do with uræmia, seeing that, if jaundice were deducted from the later symptoms of acute yellow atrophy of the liver, the clinical picture of the latter would not be very unlike that of uræmia.

Before leaving the question of whether or not the renal lesion of eclampsia is really similar in kind to the renal lesion of the cases where general œdema is the main symptom, it may be of interest to note that four out of the 71 cases who were admitted for the œdema type of nephritis in association with pregnancy had suffered from typical acute eclampsia in a former pregnancy. Eclampsia is not so common that this can be a mere coincidence. If the same patient is liable to acute eclampsia in one pregnancy and then to the œdematous form of nephritis without eclampsia in a later one, it is very suggestive of there being a relationship in kind between these two clinical forms of renal disease. If these were cases in which the œdema type of nephritis had come first and then eclampsia in a later pregnancy the argument would not be so good, though there are cases of this kind too. The four cases referred to had never had symptoms of nephritis apart from pregnancy; their first symptoms of renal trouble were those of puerperal eclampsia towards the end of their first pregnancy. Recovery from this appeared to be complete, and in a subsequent pregnancy there was the nephritic type of œdema associated red granular kidney, even including cerebral hæmorrhage. The data, however, are not yet complete, so that it will be best to leave the red granular kidney out of the question now under discussion and to confine attention to the three different clinical types of renal disease mentioned above.

---

[2] Guy's Hospital Reports, vol. li.

First in regard to pregnancy arising in a patient known to have Bright's disease at the time conception occurred. It is so clear that pregnancy is apt to have a deleterious effect upon the kidneys that it is manifestly unwise for a girl or woman with existing nephritis to get married. If the urine already contains both albumin and renal tube casts, there is a great risk that pregnancy will make the condition far worse and accelerate the end. The surprising thing is that some patients known to have persistent Bright's disease before pregnancy sometimes live to bear many children, even in spite of exacerbations of their renal symptoms during pregnancy. Such cases are exceptional, no doubt, but on going through the hospital records one finds several of this kind. In one there had been all the signs of chronic tubal nephritis for 13 years, the patient had been married for eight years, she had borne five children, and bore a sixth alive at term in the hospital. This was not a case of recurrent acute nephritis but of persistence of both albuminuria and tube casts; it is the more remarkable in that, even without the additional strain of pregnancy, it is unusual for a patient with such a renal condition to survive so long. Such an exceptional case merely shows that both pregnancy and survival may occur in a case of chronic Bright's disease; it does not follow that medical advice should not be against marriage in other cases of the kind.

There now remain the two groups of cases in which the renal disease is directly attributable to pregnancy—namely, those who develop renal œdema in the middle months and those who develop eclampsia at the end. The fact that these two forms of renal disease are really attributable to the pregnancy is so well established that it needs no discussion. In the majority of the cases both albumin and renal tube casts disappear from the urine in a remarkable way when the pregnancy has terminated. Clinically, the two types are so different that many authorities regard them as absolutely distinct renal affections; and some hold that both these two forms, besides differing from one another, are also entirely different from those renal affections which arise from other causes and which are usually grouped together under the title acute or subacute Bright's disease. It is very probable that the question of whether these pregnancy kidneys are really forms of Bright's disease or not will remain a matter upon which there will always be differences of opinion. The extent to which opinions differ at present is well exemplified in Sir T. Clifford Allbutt's "System of Medicine," where the accounts given in different volumes by such authorities as Dr. G. E. Herman and Dr. W. Howship Dickinson respectively, are remarkably at variance. Speaking of the morbid anatomy and histology of the kidneys in the two types of disease under discussion, Dr. Herman says of the first—namely, that in which œdema of ankles and eyelids in the earlier months is the main symptom—which he calls the "chronic renal disease of pregnancy":—

> We know nothing of the morbid anatomy of this chronic disease, for it is not fatal. The morbid changes in the kidney can only be found out by examining the kidneys of a pregnant woman who, having the disease, died from some accidental cause, and I know of no such record. A few necropsies have been published, but the accounts are not harmonious, for the evident reason that the patients who died were suffering from forms of renal disease such as occur independently of pregnancy and not from that which depends upon pregnancy.

This does not seem to be altogether fair, for it is as much as to say: "The chronic renal disease of pregnancy is different from that of chronic tubal nephritis due to other causes; therefore, if at a necropsy made upon a patient dying pregnant, or recently pregnant, lesions resembling chronic tubal nephritis are found, the nephritis is not that which pregnancy causes." It appears to be an argument in a circle in which the conclusion that is drawn is also one of the premisses of the syllogism.

Dr. Howship Dickinson, on the other hand, writes very differently. He says:—

> The changes which occur in the kidney as consequences of pregnancy may be briefly indicated. They are the changes of heart disease and something more. To passive congestion is superadded an acute inflammation. In an early stage there is much hyperæmia, with obvious fulness of vessels, general redness, and some increase of size. In a case destined to further trouble, a somewhat peculiar form of diffuse nephritis succeeds; the tubes become loaded with epithelium which early takes on fatty change and imparts a yellowish colour, in streaks or otherwise, to the section. The fatty change is not limited to the epithelium, but may be somewhat general. The tubal change is accompanied or quickly followed by interstitial contractile growth, with consequent compression of the tubes, particularly near the surface, and superficial granulation. The condition is one of general nephritis, upon which granular contraction ensues with inordinate rapidity. So early does the contractile process become superadded to, or intermixed with, that of inflammatory swelling that the more bulky results of renal inflammation are excluded; the large white kidney does not, under these circumstances, present itself. The early access of inflammatory change would seem to imply that other causes are at work beside the mechanical, and that these are analogous to those to which other forms of nephritis have been traced. It has been suggested that the kidneys are irritated by some product of pregnancy, possibly an excrementitious result of fœtal nutrition. The conjunction of the two morbid agencies, the mechanical and the vital, may account for the greater activity of the disease as compared with the granular kidney of other origin. The puerperal kidney has a mixed nature; it is one of diffuse nephritis, upon which granular contraction is rapidly superimposed.

Referring now to the kidneys found at necropsies in cases of fatal puerperal eclampsia, Dr. Herman says:—

> Very different conditions of kidney have been found. A comparison of the different accounts that have been published shows that they may be divided into three groups. First, disease of the kidney such as may occur apart from pregnancy, ... such as lardaceous disease, hydronephrosis, or dilatation of the ureters and renal pelves. Secondly, in most cases there are changes in the kidneys which to the naked eye resemble those of acute or chronic tubular nephritis. Thirdly, in some cases the kidneys have shown no sign of disease appreciable by the unaided senses. When these kidneys, either those looking like kidneys with acute and chronic nephritis, or those which look healthy, are examined with the microscope, the changes are not those of inflammation but a degeneration like that which is seen in blood poisoning.

These changes have been variously described by various authors, the following being some of the descriptions. Professor Hamilton says:—

> Judging from the naked-eye appearances we expected that parenchymatous inflammation of the tubular epithelium in the cortex, passing into a state of fatty degeneration, would be revealed. The first glance at a section of the organ, however, showed conclusively that this was not the case and that the lesion was not an ordinary parenchymatous inflammation. It consisted of degeneration of the epithelial cells of a certain proportion of the tubules in the circumferential aspect of the cortex. The degeneration appeared to be of a colloid nature. The products of these degenerated cells ran down and blocked up, more or less completely, the other convoluted and straight tubules, so as to render them functionally useless, although their tissues were not diseased.

Dr. Charlewood Turner, in a case of Dr. Herman's own, says that the sections—

> show recent degenerative changes of the cortex, without any older or cirrhotic lesions, changes attributable to some toxic matter in the blood. Granular degeneration and swelling of the epithelium of the convoluted tubes, the nuclei of which are invisible, and swelling of the connective tissue throughout, without infiltration of leucocytes. In the medullary tissue the epithelium of the loops and connecting tubes appears normal. Some of the loops contain casts. There is much vascular congestion in this part. The glomeruli appear normal. There is no exudation in the capsules.

Dr. W. J. Fenton, reporting upon a case, says:—

> Most tubules show what is apparently a running together of the cells, having no definite structure, and having their nuclei obscured, the whole condition of the epithelium being similar to that often found in acute toxic conditions.

And so on—Dr. Herman's conclusion being that—

> From these different observations, made by independent pathologists, having no hypothesis to support, it follows that, although the kidneys often look like inflamed kidneys, yet that the lesion of puerperal eclampsia is not nephritis but an acute degeneration such as is caused by blood poisons.

It would serve no useful purpose to give all the multitudinous literature of the subject here. The above quotations sufficiently show that the greatest authorities are in complete opposition as to the nature of the renal changes in the kidney diseases to which pregnancy gives rise. One says that they are not nephritic at all; another that they are nephritic, and nephritic in remarkable degree. The matter must remain largely one of opinion.

The crux of the whole question is: What is nephritis? and What are its different kinds? and even to these questions no absolute answer can be given. The varieties of non-suppurative affections of the kidney included under the heading "Bright's disease" run so much into one another and so much confusion has arisen from attempts to keep up a distinction between tubal and interstitial nephritis that it is not to be wondered at that that which some authorities would term a nephritis is refused that title by others.

Dealing with the question from another point view, it will probably be granted that the kidney lesions which occur during and immediately after scarlet fever are those of nephritis. Whether or not the fibrotic changes which may occur in kidneys which have been inflamed during scarlet fever are also inflammatory is doubtful. It is probably incorrect to speak of chronic nephritis in many instances, for

The Effects of the Nephritis upon the Child.

Whether it is that the influence of the nephritis upon the fœtus is bad or that the poor condition of the fœtus is in some way the cause of the nephritis is a moot point. The fact, however, that some of the children are born healthy and live to grow up notwithstanding the renal trouble in the mother would seem to indicate that in the other cases the fœtus suffers because the mother has nephritis rather than *vice versâ*. All statistics show a high mortality amongst the children and those under discussion form no exception. Leaving the eclampsia cases out of account, the other type of patients show that in 18 per cent. of the cases the child was born too premature to live; in 23 per cent. the child was born near to, or at, term, but dead; whilst in the remaining 59 per cent. the child was born alive, but in a number of instances with too little vitality to continue to live long.

Treatment.

It is not the province of these lectures to enter upon treatment at any length, so that but a few words will be said about it. Clearly the treatment of an eclamptic case lies mainly with the obstetrician. That of the nephritis of the earlier months of pregnancy, however, calls for immediate obstetric measures in but a few cases. Rest in bed, with medicinal, dietetic, and other measures precisely similar to those employed in other cases of acute or subacute nephritis, ameliorates the renal symptoms in many of the cases. The œdema and the albuminuria may thereby almost disappear before the end of pregnancy is reached. The average patient of this kind does better when treated upon the same lines as a non-pregnant case than if obstetric measures for the termination of the pregnancy are recommended and adopted. If, however, the renal mischief increases instead of diminishing, as is sometimes the case, notwithstanding all medicinal treatment—particularly when the latter has not been adopted and insisted upon at the very beginning of the trouble—the case will probably require the assistance of an obstetrician before term; although the relief to the nephritis after an artificial termination of the pregnancy is not as a rule so rapid as it is after natural delivery.

PREGNANCY IN PATIENTS WHO HAVE ONLY ONE KIDNEY.

Seeing that so much stress has been laid upon the renal affections that pregnancy itself may cause it might well be asked whether a patient who for one reason or another has had one of her kidneys removed ought to be advised not to marry. It must be remembered that although pregnancy sometimes gives rise to nephritis or to pyelonephritis the total proportion of all cases in which it does so is exceedingly small. Moreover, it is well known that after excision of one kidney the other, if healthy, has a very remarkable power of hypertrophying by way of compensation. Such a single kidney is seen in the post-mortem room now and then and it may weigh nearly as much as two ordinary kidneys. It would be expected, therefore, that if there was no evidence of disease in the remaining kidney and if the patient was otherwise in good health pregnancy might be incurred without any untoward symptoms whatever. This is, in fact, what Mr. G. E. Twynam[7] has found to be the case. It may be added that since the greater strain is put upon the right kidney during pregnancy the case is more likely to do well if it is the left kidney that remains; and further that since compensatory hypertrophy of the kidney must take some time to become complete a year or more should elapse between the nephrectomy and the occurrence of pregnancy in any given case.[8]

TETANY AND PREGNANCY.

Another condition of which pregnancy seems to be one of the causes is tetany. One of the most interesting points in regard to the association of pregnancy with tetany is perhaps its apparent rarity in London. There does not seem to have been a single case of the kind in Guy's Hospital during the last 30 years. The writer has not seen a case of the association, though he has seen several instances of tetany in adults, chiefly in conjunction with gastric lesions. Incidentally, as a point which possibly supports the toxic theory of the disease, it may be mentioned that more than one case excreted quantities of diacetic acid and acetone in the urine. It is well known that both these substances appear in the urines of many cases of gastric disorder quite apart from tetany and that they also appear in conditions of starvation, so that possibly the gastric disorders lead to acetonuria, partly or wholly as the result of semi-starvation. Nevertheless, in an instance recorded by Dr. David Forsyth[9] the paroxysms of tetany in a patient who also had evidence of gastric ulceration were always associated with an increased degree of acetonuria. It would be interesting to know whether diacetic acid and acetone were also present in the urine in cases of tetany associated with pregnancy or in those following operations upon the thyroid gland; and further, whether large doses of sodium bicarbonate had any beneficial effect upon the symptoms and course of the tetany, as might be the case by analogy with the treatment of acidosis in cases of diabetes mellitus.

That pregnancy and tetany are not at all generally related to one another as cause and effect is further shown by the comparatively small amount of literature there is upon the subject. One of the best-known monographs about it is that of Frankl-Hochwart. From this and from other papers one learns three particularly interesting points about the disease—namely, first, that in places where it occurs at all it bears a remarkable relationship to the time of year; the great majority of the cases arise in the late winter and early spring. Out of 59 cases collected by Frankl-Hochwart[10] 39 occurred in January, February, March, or April, whilst only 13 occurred exclusively in the remaining eight months of the year. Secondly, that there is a noteworthy tendency for the disease to be almost epidemic. There is a little difficulty in interpreting some of the accounts, for the disease was undoubtedly diagnosed erroneously in years gone by. Epidemic cerebro-spinal meningitis was formerly confused with tetany, for example. Hysteria affecting many individuals of a township, analogous to that of the dancing Dervishes or to that of the chorea of the ancients, constitutes another difficulty. Even allowing for this, however, the records show clearly that in places where tetany occurs there are some years in which the cases are quite numerous and then others when the disease almost disappears from the neighbourhood. In Paris, for example, where the tetany of pregnancy used to be quite frequent, it is now said to be a condition of great rarity. Thirdly, in correspondence with the above it appears to be a disease of extremely local distribution. Very rare in London, and apparently throughout Great Britain, formerly common in Paris and now rare there, rare throughout America, the two places where it seems to be the reverse of rare are Heidelberg and Vienna. It appears to be endemic in these two cities. It by no means follows, of course, that it is microbial in origin. It is well known that such diseases as cirrhosis of the liver or acute gout, common though they are in some places, are quite rare in others, although there is not yet any proof that either of these is of bacterial origin. There is no reason to suppose that the tetany sometimes associated with pregnancy differs essentially from adult tetany due to other causes. There is no need to discuss its general symptoms here, for they are well known.

The Pathology of Tetany.

The pathology of the condition is obscure, though there is much evidence to show that a toxin, and possibly not always the same toxin, is at work. The morbid lesions that have been described have chiefly been changes in the anterior cornual cells of the spinal cord and the corresponding cells in the medulla oblongata. Such changes would agree with the altered electrical reactions noted in the muscles during life. There is no complete reaction of degeneration, for excitability to the faradic current is retained; but with the galvanic current, instead of the kathodal closure contraction being more easily obtained than the anodal closure contraction, there is an altered polar response which may be summarised by saying that anodal closure contraction and anodal opening contraction are both obtained more readily than kathodal closure contraction. The changes in the spinal cord cells do not seem to be permanent, for the majority of the cases get perfectly well, though there is a tendency for the tetany to recur in several different pregnancies, not necessarily successive, in the same person.

---

[7] Brit. Med. Jour., Feb. 12th, 1898, p. 423–425, and West London Medical Journal, 1898.

[8] See also Schramm: Berliner Klinische Wochenschrift, No. 6, 1895. Fritsch: Die Krankheiten der Frauen, Berlin, 1894, p. 88. Israel: Archiv für Klinische Chirurgie v. Langenbeck, vol. xlvii., 1894. Tridondani: Annali di Ostetricia e Ginecologia, July, 1896. C. E. Purslow: Brit. Med. Jour., 1898, Part I., p. 817. H. E. Maberly: Brit. Med. Jour., 1893, Part I., p. 604. A. Pauna: Verhandlungen des Königlichen Ungarischen Aerztevereins zu Budapest, Feb. 7th, 1906, p. 11.

[9] Guy's Hospital Gazette, 1902.

[10] Die Tetanie, Berlin, 1891. See also Dakin: "Tetany in Pregnancy," THE LANCET, May 16th, 1891, p. 1103, where all cases recorded up to that date are collected, with references.

with albumin and renal tube casts in the urine and without eclampsia. The renal symptoms and urinary abnormalities again resolved after the later child was born.

It would be interesting to trace the after-histories of all the cases of eclampsia that have recovered for the time being and note what happened later. The writer has tried to do this with hospital patients, but the number of cases lost sight of is so great that the statistics obtained so far are too small to be of value. This would be a subject very suitable for a collective inquiry. The cases that have been traced show that puerperal eclampsia has recurred in some without necessarily proving fatal; that in others, as has been mentioned, renal œdema without eclampsia has taken its place in a subsequent pregnancy; whilst others, again, having recovered from eclampsia, have borne subsequent children without either œdema, albuminuria, or eclampsia. It is not improbable that the same would be true of scarlatinal nephritis if scarlet fever could recur in the same patient as often as pregnancy can.

Returning now to a consideration of all the cases together, they are found to bear out entirely what has been noted by others in regard to: the relatively better prognosis in the œdema type of pregnancy nephritis as compared with the eclamptic; the high proportion of primiparæ amongst the eclampsia cases and the preponderance of multiparæ amongst those who develop the œdema type of nephritis; the relatively high percentage of cases in which albuminuric retinitis occurs; the relatively greater severity of the symptoms when the uterus contains twins; and the liability for the children to be born prematurely or dead, or for them to die soon after birth.

The immediate maternal mortality.—Out of 71 patients with renal œdema and no eclampsia four died whilst in hospital, an immediate maternal mortality of 5 per cent., whereas out of 51 cases of puerperal eclampsia 15 died, an immediate maternal mortality of 29 per cent. This is a relatively small mortality as compared with that of acute uræmia not associated with pregnancy.

The number of previous pregnancies.—Of the puerperal eclampsia cases 76 per cent. of the patients were primiparæ; of the remainder most had had only one previous child, but in two cases there had been 10 and 12 previous pregnancies respectively. Of the cases with renal œdema and no eclampsia, on the other hand, only 36 per cent. were primiparæ, 64 per cent. having borne a former child or children, whilst a considerable number of the multiparæ had had from four to 12 pregnancies without evidence of nephritis before. Leaving the eclampsia cases aside, as being of less interest to physicians, it is found on analysing the 71 cases in which there was renal œdema without eclampsia that 70 per cent. had never had symptoms of renal disease until the time when they developed during the pregnancy; that 10 per cent. had passed through a former pregnancy without symptoms of nephritis, but subsequently developed them when not pregnant, and suffered from an increase in the symptoms during a later pregnancy; that 7 per cent. had had acute nephritis before they were married and suffered from recrudescence of that trouble during pregnancy; that 6 per cent. had had eclampsia with a former pregnancy and now had symptoms of ordinary nephritis during pregnancy; that 6 per cent. had had symptoms of nephritis during a former pregnancy, recovering between whiles, but exhibiting the nephritic symptoms again when subsequently pregnant (in one of these cases nephritis with œdema, but without eclampsia, had recurred with each of four successive pregnancies); and that 1 per cent. had had no symptoms of nephritis during pregnancy and had had no eclampsia, but developed the symptoms of acute nephritis, with general œdema, during the puerperium.

As regards the month of pregnancy at which the renal trouble became manifest, that of eclampsia was, as all observers agree, in the latest months or immediately following labour; whereas in the cases where renal œdema was the main symptom the onset was at any time between the second and the eighth month, the trouble manifesting itself about the fifth or sixth month in the majority of cases. In this connexion it might be asked: If a pregnant woman develops evident œdema of renal type, with albumin and tube casts in the urine, during the eighth month of pregnancy, what is the likelihood that she will also have eclampsia? It would require a larger number of cases than the above for any absolute answer to be given to this question. It is fairly clear that if nephritis with œdema develops in the early or middle months of pregnancy it is quite exceptional for eclampsia to occur when the pregnancy is more advanced. It is also quite clear that the majority of cases of eclampsia have little or no œdema. Thus in 49 per cent. of the eclampsia cases there was no œdema at all; in 35 per cent. there was definite though slight œdema of the face and ankles; in but eight cases, or 16 per cent., the general œdema was extensive, though it only developed in the later months.

Amongst the renal cases in which no eclampsia occurred there were nine in whom generalised œdema developed for the first time during the eighth month or later. There were thus 17 cases in whom extensive renal œdema first appeared in the eighth month, eight of them subsequently developing eclampsia and nine of them not doing so. It seems therefore that a broad answer to the question propounded above is, that when renal œdema first develops as late as the eighth month of pregnancy, the chances as to whether the patient will suffer from eclampsia or not are about equal.

Albuminuric Retinitis.

It is generally allowed that albuminuric retinitis in these pregnancy kidney cases is more common than it is in other forms of nephritis. The above cases conform with the general conclusions arrived at by others. Unfortunately, there was not an ophthalmoscopic record kept in every instance. Of the 71 cases without eclampsia 13 had albuminuric retinitis, two dying; 10 had no albuminuric retinitis, none dying; and in 48 cases the condition of the eyes is not noted. Even if it be assumed that there was no albuminuric retinitis in all of these, which is improbable, the incidence of the retinal changes is nearly 20 per cent.; whereas in 312 consecutive cases of chronic nephritis not associated with pregnancy the incidence of the retinitis was 11 per cent.—14 per cent. in those diagnosed as chronic tubal and 9 per cent. in those thought to be chronic interstitial nephritis.

It is generally acknowledged that albuminuric retinitis is less likely to occur in acute Bright's disease than it is in chronic; nevertheless, it was well marked in 3 of the eclampsia cases, 2 of them dying. It was absent in 9, of whom none died; and there is no mention of the retinæ in the remainder.

Amaurosis was present in several cases in which the optic discs and retinæ were normal.

It has been said that pregnancy cases with albuminuric retinitis have a less unfavourable prognosis than have others with a similar lesion. This is perhaps true to the extent that in a few instances the retinal mischief has been known to disappear again after the pregnancy is over. In at least one of the above cases in which albuminuric retinitis was well marked during pregnancy the albuminuria, the œdema, and the retinitis disappeared entirely after the child was born. Nevertheless, the presence of the retinal changes is a sign of extreme gravity even in the pregnancy cases, the immediate mortality amongst the 16 cases who had it being 25 per cent.—15 per cent. in the non-eclamptic cases and 66 per cent. in those who had eclampsia.

The Effect of Twins.

The deleterious effect of twin pregnancy upon the kidneys is more marked in the eclampsia cases than it is in those with general œdema without eclampsia. Amongst the 71 cases of the latter there was not one of twin pregnancy, whereas amongst 51 of the former there were twins in 4; that is to say, in 8 per cent. The normal proportion of twin to single pregnancies is as 1 to 80, so that the incidence of twin pregnancies in eclampsia cases is more than six times greater than the average. This is precisely what has also been quoted by Schauta,[3] Hofmeier,[4] Löhlein,[5] Schreiber,[6] and others, whose conjoint statistics show that in between 7 and 8 per cent. of eclampsia cases twins are present. This remarkable fact strongly supports the view that the nephritis is due to a toxin elaborated by the placenta or by the fœtus, for, as Dr. Herman and others point out, the mere bulk of the uterus will not account for it. "Nothing like eclampsia is ever met with in cases of abdominal tumours—ovarian cysts, uterine fibroids, and so forth—which sometimes get much larger than any pregnant uterus. The frequency of eclampsia with twin pregnancy arises from the presence of two children in the womb and not from mechanical distension of the abdomen."

---

[3] Archiv für Gynäkologie, vol. xviii.

[4] Zeitschrift für Geburtshülfe und Gynäkologie, vol. vi.

[5] Ibid., vol. vi.

[6] Archiv für Gynäkologie, vol. li.

the co-existence of pregnancy makes an attack of appendicitis more severe than the average—cannot be given until, by some process of collective inquiry, all the milder as well as the more severe cases can be collected. This is not at present possible, for the more striking cases become published, the simpler remaining in the background. The proportion of mild to severe cases is thus lost sight of; consequently the severity of appendicitis during pregnancy is very apt to become exaggerated. Nevertheless, those who have seen cases give it as their personal opinion that pregnancy is a complication which greatly increases the risks and dangers of the disease. The attack may occur at any stage of the pregnancy, as early as the sixth week and as late as the eighth month. The illness may be of all degrees of severity, from transient appendicular colic to the acute fulminating appendicitis which proves fatal in a few hours. In mild attacks, during the early months of pregnancy, the inflammation may completely subside and pregnancy go on uninterruptedly to term. "Owing, however, to the increased blood-supply and to the congestion of the parts due to pressure of the enlarging uterus," cases of appendicitis in pregnancy seem to run an unusually rapid course. Though some subside the majority, if left, seem to go on to suppuration and the further advanced the pregnancy the more likely this seems to be.

The danger to the mother's life does not cease with the opening of the abscess, for even after drainage of the cavity in the later stages of pregnancy, or in cases where miscarriage has taken place already, a septic salpingitis or endometritis may be set up with a further liability of extension to the peritoneal cavity. As regards the effects upon the fœtus, the latter was born dead in 90 per cent. of the cases collected by Abrahams.[12] When pus forms in the later months of pregnancy miscarriage almost invariably takes place whether operation be performed or not. Even in cases where no pus is proved to have been present miscarriage or premature labour is more common than is the rule in healthy cases. It is not surprising that an untoward ending of the pregnancy is so frequent when one considers that the enlarged uterus is almost certain to be in contact with the inflamed tissues and to form one wall of the abscess cavity when pus is present.

The answer to the question of whether or not the treatment should be different to that of appendicitis in non-pregnant cases seems to be this: That, upon the whole, operative measures should be accelerated rather than postponed in these pregnancy cases. There are, of course, quite mild cases in which it is better to do nothing active; but in cases of the next degree of severity, where if the patient were not pregnant it might be thought best to wait, the opinion seems to be that operation should be advised on the very ground that the patient is pregnant, particularly in the later months of pregnancy. Doubtless this will not be the opinion of all,[13] but the reasons given for it seem sound; in the first place, owing to the vascularity of the parts, pus is even more likely to occur in these cases than it is in others; in the second place, the prospect as regards the child is so poor in any case that the course followed should be almost exclusively that which is in the greatest interests of the mother; and in the third place, the emptying of the uterus by spontaneous miscarriage or premature labour is so likely to occur and with it a rending open of a previously localised inflammation, with consequent spread to the general peritoneal cavity, that it is very dangerous to wait.

The foregoing argument gives the answer to the last of the questions that were put above. It is in the last degree undesirable that obstetric measures for terminating the pregnancy artificially should be resorted to for fear of breaking down adhesions that are helping to localise the inflammation.

Pinard[14] has collected 45 cases of appendicitis complicating pregnancy, the diagnosis being confirmed in 30 by operation or post-mortem examination. He concludes that appendicitis may attack a pregnant woman at the beginning or at any time during pregnancy; that in the majority of cases it causes abortion, the reason for which is that the fœtus becomes infected with the bacillus coli communis, this organism being recoverable from its blood; that every type of appendicitis may occur, the severer cases predominating; and that operation should be advised as early as possible, both for the mother's sake and with a view to diminishing the chances of fatal infection of the child by the bacillus coli communis.

If a pregnant woman develops an attack of appendicitis that is in any degree severe the statistics that are available all indicate that the best chance of saving both the mother and the child is by early operation.

---

[12] American Journal of Obstetrics, February, 1897.

[13] See also Vinay: Lyon Médical, Jan. 2nd, 1898. Bouillier: Thèse de Lyon, 1897, and Epitome. Brit. Med. Jour., No. 442, 1898. Toupet and le Filliatre: Bulletin de la Société Anatomique de Paris, December, 1898. THE LANCET, Oct. 11th, 1902, p. 1004. Donoghue: Boston Medical and Surgical Journal, Sept. 4th, 1902. Mixter: Ibid., December, 1891. Mundé: Medical Record, 1894. New York Medical Record, 1907, vol. i., p. 830.

[14] Semaine Médicale, March 23rd, 1898.

THE SCHOOL AND ITS PART IN THE PREVENTION OF TUBERCULOSIS.[1]

By JOHN HAY, M.D. VICT., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE ROYAL INFIRMARY, LIVERPOOL.

THE subject which I have been asked to discuss with you this afternoon is "The School and its Part in the Prevention of Tuberculosis." The recent legislation dealing with school inspection makes this an opportune moment for carefully reconsidering the many sides to this question and the views which have been expressed by those who have taken an interest in it. I will attempt to place before you some facts bearing on tuberculosis in its relation to the schools and then formulate certain broad lines along which advance seems desirable.

In the last nine or ten years this fight has been actively waged and at last we begin to see undoubted results from our labours. Surely it is a matter of great encouragement that there are those speaking in authority who firmly believe that after another half century of effort tuberculosis will have ceased to be the powerful enemy that it now is. This happy issue, however, can only be attained by unceasing vigilance and continuous effort. One fact alone is sufficient to show what a deadly pest we have in the tubercle bacillus—namely, that one-half of those who die between the ages of 25 and 35 years die from tuberculosis. It is worthy of note that during the last 30 years the death-rate from consumption in England has fallen from 21 to 12 per 10,000 of the population.[2] This grand advance means an enormous saving of human life. But what a different tale your own country tells. 30 years ago your death-rate from consumption was only 18 per 10,000; now it is 22. These figures "give us pause" and are in themselves sufficient to give rise to much searching of heart among those responsible for the guidance of the people in matters of public health. There is no reason why a definite and rapid improvement should not take place in Ireland. What is needed is coördination of the many agencies already in existence, a wider knowledge of the nature of tuberculosis and the means of stamping it out, and last, and of extreme importance, enthusiasm and money. Money is *absolutely essential* in this fight. Every medical man knows well when pondering on the outlook of a patient suffering from pulmonary tuberculosis that the chances of cure, other things being equal, depend on the financial status of the sufferer. The same holds good with a nation. The more money it can afford to put down the better chance there is of a speedy and permanent diminution of the amount of tuberculous disease in the country.

Professor Koch in his Nobel lecture[3] said that he considered "notification, hospitals, sanatoriums, and care-stations the heavy artillery in the battle against tuberculosis," and he says further: "But there are lighter weapons, too, which cannot themselves exercise so incisive an effect but the coöperative help of which we cannot dispense with." Among these he reckons "in the first place, all efforts to instruct the people as to the danger of tuberculosis and to keep awake the interest of the masses in the combating of tuberculosis by popular publications, lectures, exhibitions, and other means."

To-day we are to discuss more particularly the schools and their relation to the prevention of tuberculosis and I venture to think that Professor Koch would have classed the schools as one of the more powerful of the lighter weapons of which

---

[1] A paper read at the Tuberculosis Exhibition in Cork on Jan. 4th, 1908.

[2] Brit. Med. Jour., 1906, vol. i., p. 1556.

[3] THE LANCET, May 26th, 1906, p. 1449.

The other points that may be of interest are, briefly, the following. The patient usually escapes during the first half of pregnancy, the affection developing in the later months as a rule, though it occasionally shows itself earlier. The spasms are rarely met with during labour—a remarkable point, seeing that they are so readily produced by muscular efforts at other times. They may occur for the first time during lactation, though this seems to be less common than for them to arise during pregnancy and then continue during lactation. If they occur during lactation it is clearly impossible for the mother to suckle the child, for she is unable to hold it securely. It is necessary to feed the baby artificially, not only for its own sake, but also because it leads to the more rapid subsidence of the tetany in the mother. The treatment of the condition is similar to that of tetany in non-pregnant persons. Finally, the tetany in the mother seems to exert less ill-effect upon the fœtus than might be expected.

We may now leave the medical diseases, of which pregnancy is itself the exciting cause, and pass on to the discussion of other medical affections which, though not actually caused by the pregnancy, may yet arise or be already present in a pregnant woman. There is hardly a medical disease, from a common cold to a cancer, that may not be thus present and it is of essential importance to know in what respects, if any, the prognosis and the treatment in the case of a pregnant woman suffering from such intercurrent malady differ from the prognosis and the treatment in other cases. It is manifestly impossible to discuss every such disease in the time at our disposal; many must be left unmentioned.

APPENDICITIS IN ASSOCIATION WITH PREGNANCY.

The question of appendicitis is always one of interest. What is the influence of pregnancy upon appendicitis and *vice versâ?* This would be an excellent subject for a collective inquiry. The number of cases of pregnancy in association with appendicitis seen by a single individual is not likely to be great, and the cases that can be collected from the literature are almost necessarily those which are the more severe. The mild cases, which get better without anything very active being done, escape publication, and a collective inquiry which would cover all cases, whether mild or severe, would probably lead to conclusions that could not but be helpful to all.

There is a certain amount of literature upon the subject, some of which has been collected by Mr. George Heaton[11] of Birmingham General Hospital. One of the chief difficulties in connexion with the matter is that of diagnosis. Inflammatory and other lesions of the right Fallopian tube or ovary may simulate appendicitis very closely. The ordinary vomiting of pregnancy may be regarded as the whole trouble when there is really appendicitis, whilst, on the other hand, when a special outlook is being kept for appendicitis the latter may be diagnosed when none exists. The difficulties that may arise when the lesion is really in the kidney—the pyelonephritis of pregnancy—have already been discussed, and in every case of suspected appendicitis in pregnancy the urine should be carefully examined with the microscope for pus corpuscles. The pains, again, may be referred to the abdomen when the real mischief is in the chest. Indeed, the diagnosis of appendicitis in a pregnant woman is beset with all the difficulties that occur in non-pregnant cases, together with others peculiar to pregnancy. Assuming, however, that the difficulties of diagnosis can be overcome by experience the questions which arise are: Does pregnancy predispose to appendicitis when there has been no previous attack? Does pregnancy in a patient who has formerly had appendicitis without operation render her particularly liable to another attack during or after the pregnancy? Does the coincidence of pregnancy with appendicitis make the latter more severe than it is in average cases? Does appendicitis in the mother render the pregnancy more liable to terminate prematurely and does it militate against the life of the child if the attack occurs when the latter is of viable age? Should the treatment of the appendicitis be precisely similar to that of corresponding attacks in non-pregnant persons, or should the physician's advice be more in the direction of inviting surgical assistance sooner, or more in that of continuing expectant treatment as long as possible in these cases? Should obstetric aid for artificially terminating the pregnancy be sought in any of these cases? These are very vital questions and yet it is by no means easy to answer them. It may be urged that no definite rules can be laid down and that the action to be taken in each instance that arises must be decided entirely upon the merits of the particular case. This is true to a considerable extent; but when it is borne in mind that very different interpretations are put upon these "merits of the case" by different observers, even in cases of appendicitis in non-pregnant persons, it becomes evident that it is still more difficult to decide what is best to be done in cases that are at the same time pregnant.

In answer to the first of the above questions it would seem that pregnancy does not predispose to a primary attack of appendicitis. Amongst all the patients that have been in Guy's Hospital suffering from appendicitis during the last 27 years only one was at the same time pregnant. She was a woman, aged 24 years, who had had no former attack, who had had no previous child, and who was six and a half months pregnant when she was suddenly seized with acute appendicitis of moderate severity. The trouble was localised from the first with the usual fulness in the right iliac fossa. Premature labour came on spontaneously a day or two afterwards and the appendicular trouble rapidly resolved without operation.

The second question receives the following answer from Mr. Heaton: "If a patient have previously suffered from the complaint and afterwards becomes pregnant, the pregnancy may light up another attack. This it probably does by stretching or breaking down old inflammatory adhesions as the uterus enlarges and rises out of the pelvis. ...... On careful questioning it will often be found that there have been one, or several, previous attacks, though in some cases they have been of so mild a character as to have been almost disregarded. ...... Some surgeons would in every case remove the appendix in women immediately after an attack of appendicitis, if they be of a child-bearing age." It is manifestly of the greatest importance to have a clear answer to the question and to know whether the above views are correct or not. A young woman might contemplate marriage and, having had one attack of appendicitis when she was a girl and having recovered from it without operation and having had no symptoms of it since, she might ask the advice of a physician as to whether she ought to have her vermiform appendix removed before her marriage or not. She might be loth to undergo the operation and yet willing to follow the advice that might be given. Ought the operation to be advised in such a case or not? The answer can only be given when the results in a large number of such cases in whom no operation has been done have been collected and analysed. I have attempted to follow a number of hospital cases in this way, but to be of value the statistics obtained in a similar way by many different individuals should be put side by side and compared; the results found so far seem to indicate that there is no particular liability for pregnancy to light up fresh appendicular trouble in cases where the former attack occurred years before and appeared to resolve completely. The fact that a girl with ordinary appendicitis may some day become pregnant and might then have a recurrence of the trouble, may doubtless be an additional argument in favour of appendicectomy during convalescence from the attack, but if a patient has not had that operation at the time and has had no return of the symptoms since, the chances of her developing fresh appendicitis later when she becomes pregnant seem to be sufficiently small to warrant the advice that she needs no operation previously to marriage. If, on the other hand, a woman has her first attack of ordinary appendicitis after marriage, at a time when she is not pregnant, and the question arises as to whether she should have her vermiform appendix removed when the acute phase of the attack has passed, the fact that she might become pregnant very soon would seem to be a very real ground for advising that the operation should be done. Although there seem to be practically no statistics upon the subject, pregnancy arising within a few months of an attack of appendicitis would be very liable, one would think, to stretch and break down the immature adhesions in the way that Mr. Heaton describes, and lead to a recurrence of the trouble at a time when it would be particularly unfortunate. For the same reason it would be unwise for a young woman who had had appendicitis, not years ago but within the last few months, to get married; and such a patient would probably be advised to have appendicectomy performed, even though for a similar state of affairs in a man the operation might not be essential.

The answer to the third question—namely, whether or not done in the improvement of the hygiene of many school premises throughout Great Britain and perhaps in some respects more especially in Ireland. The Commissioners of National Education in Ireland for 1905–06 revealed a condition of affairs which was simply appalling.[5] The whole system of primary education, so far as it concerned the provision of proper school accommodation, was in a state of paralysis. The details concerning some of the Belfast schools are almost incredible.[6] In one school, for example, in Belfast 401 children were present, though there was only accommodation for 209. In another 78 infants were huddled in a room 19 feet by 9½ feet, and 64 first standard pupils in a room 14 feet by 9½ feet, with only one window admitting of being opened. It is hard to believe, for instance, that there are very many schools throughout Ireland that are never washed from one year's end to the other; they are only brushed. I have it on the authority of Mr. Patrick Gamble, the President of the Irish Teachers' Association, that it is no unusual thing for the teacher to have to pay out of his own small stipend for the whitewashing and other necessary repairs about the school. I will not multiply instances; the above will suffice to show at least one flaw to be remedied. It has been well said, "damp, ill-lighted, and dirty schools were forcing-beds for consumption and other diseases." To remedy this, overcrowding must be prevented and a larger air space per child must be enforced. The classes which at present are almost invariably too large must be diminished. The ventilation which in most cases is imperfect should be made efficient. To effect these reforms it will be necessary in many instances to pull down and utterly destroy the old and insanitary and impossible schools and to build new ones in their stead. To tinker up the old schools is a waste of time and is bad economy. However, more can be done for the children with latent tuberculosis than simply giving them fresh healthy surroundings during school hours, though that in itself is half the battle. I will refer to this shortly.

---

[11] Brit. Med. Jour., March 4th, 1905, pp. 463-465.

It is obvious, then, that the children in attendance at school can be divided into three classes: (1) those who are healthy and free from any taint of infection—this division will include the majority of the children; (2) those who are suffering from active consumption, about ½ per cent.; and (3) those who are predisposed to consumption and who are possibly the victims of latent and unrevealed tuberculosis. In this group we may include those children who come from a home where one of their parents or relatives is suffering from "open" tuberculosis.

In order to have the children so classified two things are necessary. First, the medical inspection of school children. This we in England have now obtained under the Education Act of 1907. Secondly, the notification of tuberculosis—the more complete and compulsory the better; this we have in some degree. The Act which has given us medical inspection of schools has left the local education authorities to decide to what extent their medical officer shall work in conjunction with the public health department, and very considerable differences of opinion exist as to the extent to which the school medical officer shall be under the jurisdiction of the medical officer of health. In the memorandum issued by the Board of Education on the medical inspection of children in public elementary schools the Board takes the view "that the work of medical inspection should be carried out in intimate conjunction with the public health authorities and under the direct supervision of the medical officer of health." For, as they point out, "*school hygiene* cannot be divorced from *home hygiene*, and this in turn is intimately bound up with the hygienic conditions of the community." Efficiency and economy require, therefore, an organic relationship between the daily work of the school authority and of the authority responsible for the administration of the wider branches of public health.

The value of a close relationship between the medical officer of the school and the medical officer of health is at once apparent in connexion with this question of open tuberculosis in the homes of the children, for it is essential that the school medical officer should be informed of all cases of tuberculosis present in the homes whence the children come. These children could then be specially supervised and if need be given special care. The medical officer of health on his part, by means of inspectors, &c., would do what lay in his power to educate the consumptive parent as to the necessary hygienic measures and when advisable suggest the removal of the infectious person to the union infirmary. It is generally accepted that latent tuberculosis is more frequently found among the children of consumptives and also that the children of tuberculous parents are predisposed to infection. Thus it is very desirable that the existence of "open" tuberculosis in the parent or parents of the children should be reported to the medical man in charge of a school. With the facts obtained by a careful medical examination and the data supplied by the public health department the children may be classified as I have suggested and can then be dealt with according to their class. Those who have active tuberculous disease must not be allowed to continue in attendance; the medical officer of health should be notified and the parents told to obtain medical advice either from their own medical man or if too poor, to attend a hospital. In a few instances sanatorium treatment might be advisable. The question how to deal with the much larger group of children—those who are predisposed to phthisis or who have tuberculous parents at home—is much more difficult and much more important. Various methods have been employed. In France, in Germany, and in a few instances in England there are schools in the country where the children can receive the benefit of appropriate treatment and proper nourishment while at the same time they are being educated. In England these schools are private ventures but in France and Germany I understand there are special primary schools; more than that, there are sanatoriums and nursing homes and open-air schools. At the best, however, the method is expensive and can only be largely utilised when taken up by the Government or by some wealthy philanthropic body. In the industrial day-schools, where the children are fed as well as taught, it is not difficult to increase the dietary of those who are predisposed to tuberculosis and to order them cod-liver oil and so forth but in the primary and secondary schools it is more difficult. Something should be done by notifying the parents of the importance of a full diet and it might be possible to take special measures during school hours. These are the children to be more particularly considered and whose resisting power must be increased by every available means. They *must not be overworked*, they must have *sufficient sleep*, and they *must be well fed*. A *careful record of their weight* would be of value as an indication of the effect of the stress of school life and of the special treatment which they receive.

The most important hygienic step is, however, the segregation of those incurable cases of pulmonary tuberculosis which are a constant menace to the health of all who come into close contact with them. The house becomes infected, and the infants and young children toddling about and crawling over the infected carpets and floors take in those bacilli which in later years will cause their death.

Dr. A. Newsholme believes that the more rapid reduction of the death-rate from consumption in England as compared with Ireland and France is due to the segregation of so many advanced cases in the workhouse infirmaries.[7] For three years I was assistant medical officer in a large union infirmary where the tuberculous patients formed a fair percentage of the inmates. There were about 80 cases of advanced phthisis in a hospital of some 700 beds. Other union infirmaries tell the same tale. In this way many dangerous sources of infection are removed. Ireland appears to be realising the importance of this, for I see that during 1907 973 deaths from tuberculosis were registered in the city of Dublin; and of these 321 died in workhouses, 271 died in hospital, and only 381 of the 973 died in private houses. The more this method of segregation can be carried out the better for the community and I look forward to the time when the municipalities, in addition to providing wards or "homes" for incurable and disabled consumptives, will have open-air industrial colonies for those who, while suffering from tuberculosis, are still able in some degree to support themselves. These colonies would be of great service in yet more fully localising and isolating cases of open tuberculosis. Segregation is the thing to be aimed at, for to prevent infection is to prevent tuberculosis. By segregation of the infectious cases we purify the homes, and nothing makes for healthy children more than healthy homes. The home is the point at which health must ultimately be controlled.

The inspection of the school medical officer must, of use can be made. There are certain facts which must be fully realised at this point and which I venture to state somewhat dogmatically. 1. Tuberculosis of infants and young children is almost always due to human infection; any other source of infection is almost negligible. The disease in nearly every instance is contracted at home. Home infection is far more common than any other. 2. Pulmonary tuberculosis or consumption is classed as either "open" or "closed." Patients suffering from "open" tuberculosis discharge tubercle bacilli into the surrounding air by means of expectoration or in the spray inevitably associated with a cough. A patient with "open" tuberculosis is an infecting and infectious agent. When, however, there is no discharge of bacilli, as when the disease is early or quiescent and the expectoration when present is free from tubercle bacilli, the patient is then classed as a case of "closed" tuberculosis and is not a source of danger to others. 3. Latent tuberculosis is practically always closed and non-infectious. It is common in school children. Naegeli[4] at Zürich has shown that of the children between the ages of 5 and 14 years who died and on whom a post-mortem examination was made 33 per cent. had some focus or other of tuberculous disease; similarly between the ages of one and five years 17 out of every 100 children going to necropsy were found to be infected. These facts in themselves speak strongly in favour of the home as the source of infection. We may take it, therefore, as correct that in the majority of instances tuberculosis is contracted in infancy or childhood, remains latent and unrevealed during school life, and only becomes evident in adolescence or early manhood.

---

[5] THE LANCET, Oct. 6th, 1906, p. 951.

[6] THE LANCET, July 14th, 1906, p. 123.

[7] THE LANCET, June 2nd, 1906, p. 1544.

I propose to deal with our subject under three heads. 1. To consider how many school children are actually infected and the nature of the infection. 2. To discuss what steps should be taken to lessen the risk of infection and to cure those already diseased. 3. To determine what can be done to make the school a more potent factor for good, for the school is the place where the public opinion of the future is largely formed and where new views of hygiene are to be inculcated.

Is revealed tuberculosis common among the school-going population? The answer to this is in the negative. This matter has been investigated by several men during the last few years and in THE LANCET of Dec. 28th, 1907 (p. 1813), a series of interesting figures is given by Dr. H. C. Lecky and Dr. W. Claude Horton bearing on this point. My own experience tallies with theirs. During the last three years I have investigated 436 children in a Liverpool day industrial school. Every child is examined on admission and once a year afterwards. He or she is stripped to the waist and carefully overhauled. Of the 436 children 397 presented no evidence of lung disease or any form of discoverable tuberculosis. Of the 39 abnormal children two were suffering from definite pulmonary tuberculosis, one had an ankylosed hip-joint the result of old tuberculous trouble, and three had definite tuberculous glands in the neck. The other 33 were affected with slight simple bronchitis. 1 child in 218 was suffering from demonstrable consumption; in other words, only 0·45 per cent.—that is, less than ½ per cent. of the children attending this school—showed any sign of tuberculous disease of the lungs. These results may be tabulated as follows:—

Total.	No lung trouble or tuberculous disease.	Pulmonary tuberculosis.	Other tuberculous affections.	Slight bronchitis.
436	397	2	4	33
—	—	0·45 per cent.	0·91 per cent.	7·5 per cent.

These figures are in keeping with the results obtained by Dr. Lecky and Dr. Horton, who found three cases of revealed pulmonary tuberculosis in 806 children. In London out of 1670 children only 8, or 0·47 per cent., showed signs of consumption. In Blackburn, Dr. A. Greenwood states, among 400 children only one was diagnosed as suffering from pulmonary tubercle. Dr. A. P. Low in Dundee found no consumption in 517 children. Dr. R. V. C. Ash in Dunfermline examined 1371 children with a similar negative result. Dr. W. M. Mackenzie met with 14 cases in the examination of 600 children, while in Aberdeen Professor M. Hay in another series of 600 children found only three infected. In the Cannongate Schools in Edinburgh 19 children were found to be consumptive out of 1318. These results are somewhat contradictory, and I believe that probably the lower estimates are the more correct. However, even including the Edinburgh figures the resulting average is not more than one case of pulmonary tuberculosis in 154 children. Professor E. J. McWeeney of Dublin in a recent paper proves that the percentage of children in the Irish schools suffering from tuberculosis is higher than in the English, and estimates that about 3700 children are actually attending school suffering from "open tuberculosis." He states also that for every six children between 10 and 15 years of age who die from tuberculosis in England 15 die in Ireland; and for every adolescent between 15 and 20 years of age who dies in England three die in Ireland. These numbers are, of course, relative to the total population. In spite of these figures, however, we see that the percentage of children attending school who are suffering from pulmonary tuberculosis is extremely small.

Some very interesting figures were published by Dr. A. Greenwood showing the results of the examination of 1028 children who had absented themselves from school because of illness; of these absentees 6·7 per cent. were suffering from pulmonary tuberculosis. When this high percentage is compared with the relatively low figures just quoted of the extent of pulmonary tuberculosis among the ordinary school children the obvious inference is that tuberculosis when attacking children rapidly unfits them for school life. For this very reason they soon cease to be a source of danger in the school, for they do not attend. Children with acute or subacute tuberculosis are hardly ever found at school, they are rapidly incapacitated and remain at home.

The view of Calmette, von Behring, and others that infection occurs during the earlier years is becoming generally accepted; the results of Naegeli at Zürich, to which I have already referred, bear this out. You will remember that he found among the children from 5 to 14 years of age dying from all causes 33 per cent. who showed some focus of tuberculous disease and similarly that in the children who died between the ages of one year and five years 17 per cent. were more or less tuberculous. Of these tuberculous infants and children, in the large majority of instances the disease would be latent, or, at any rate, unrevealed during life. The late Professor Granchet carried out some interesting investigations bearing upon this point. During three years 4227 children in the primary schools in and near Paris were examined in order to find out how many showed a characteristic *predisposition* to tuberculosis. The result of this investigation was as follows. From 11 to 14 per cent. of the boys and from 17 to 20 per cent. of the girls, or roughly 15 per cent. of the children examined, showed a definite predisposition to tuberculous disease. The existence of this large number of school children predisposed to tuberculosis is a fact of the greatest moment. This predisposition is shown in many ways, as, for example, by the presence of enlarged tonsils and adenoids, with the consequent mouth-breathing, and by poorly developed chests and deficient expansion. Enlarged glands in the neck and abdomen in the majority of instances can be put down to tuberculous infection. Calmette's ophthalmic reaction may possibly prove of service in helping to pick out those children who have some concealed focus of tuberculous disease. The future of these children depends on their resisting power and their resisting power is largely dependent on their environment not only in the home but also in school. The latent tuberculosis present in the 10 or 15 per cent. of the children will not in many instances continue to be dormant. If the resisting power of the children is allowed to remain at a low level sooner or later the tubercle bacilli which have remained concealed in their tissues will again become active and the patient will die during adolescence or early manhood. These facts insisting on the large extent of latent infection have a very practical bearing. They demonstrate the vital importance of healthy surroundings during school hours. It is very difficult in many instances to alter materially the home surroundings of the children but this is not the case with the schools. To have overcrowded, badly ventilated, stuffy schoolrooms is to devitalise the children and to invite disaster. Those predisposed to tuberculosis will have their chances of reaching manhood and womanhood seriously diminished.

I think I am right when I say that much remains to be within 24 hours. Doses of from 1 to 5 cubic centimetres are more or less uncertain in their action, but a dose of 10 cubic centimetres is fatal for a guinea-pig weighing from 200 to 300 grammes within 24 hours.

---

[4] Quoted by Dr. N. Méry, Rapports présentés au Congrès International de la Tuberculose, Paris, 1905, p. 298.

The post-mortem lesions are limited to the stomach and always occur during the first 24 hours after injection. If an animal survive, lesions are found on the next day in its stomach if the dose has been sufficient, and no further lesions nor any symptoms occur after this time. The intestine may be extremely congested but shows no other lesion. This limitation of the lesions to the stomach does not indicate that the serum is specific in its action. Other tissues are also affected as the symptoms and death of the animal shows. I have proved that this is the case by studying the action of the serum on other tissues *in vitro*, and also by showing that sera formed against other tissues are able to produce, although to a less extent, precisely similar lesions in the stomach. The lesions consist of patches of necrosis in the mucous membrane. The areas of necrosis are stained black by altered blood pigment; they are usually multiple and very often nearly the whole mucous membrane is affected, but sometimes only two or three patches may be present or even one only. The patches vary in size from that of a pin's head to that of a large area occupying a third or more of the mucous membrane of the stomach. The patches are sharply marked off from the rest of the mucous membrane which appears to be normal and they are found most commonly near or on one of the curvatures, but may occur anywhere in the stomach. After from 24 to 48 hours the black tissue has completely disappeared, leaving perfectly clean and sharply punched-out ulcers.

On microscopic examination the necrosed patches are quite sharply marked off from the normal tissue and do not extend beyond the *muscularis mucosæ*, the muscular and peritoneal coats being normal.

The blood in the vessels is generally normal and frequently so when they are situated in the necrosed patch. In other cases it is hæmolysed and may occasionally infiltrate the submucous tissue. The gland cells in the necrosed patch are either very faintly stained, or quite unstained, their outlines being clouded and the cells shrunken, or the whole patch may look like a brownish coagulated mass in which no structure can be made out; at other times strands of interstitial tissue alone are seen, the gland cells having completely disappeared. The process evidently begins at the free surface of the mucous membrane and extends towards the bases of the glands, because cases are seen in which some patches are situated on the surface of the mucous membrane only. After 48 hours the edges and base of the ulcer are found to be infiltrated with leucocytes.

In order to study the healing of these ulcers I have found it necessary to inject the serum directly into the stomach wall of the guinea-pig after opening the abdomen aseptically, because if one injects into the blood stream an amount sufficient to produce ulceration the animal nearly always dies. If 2 cubic centimetres of normal guinea-pig's serum, normal rabbit's serum, or salt solution be injected into the wall of the guinea-pig's stomach so as to cause a local œdema, it will be found by the next day or the day after that the solution has been completely absorbed and that no lesion has resulted; but if 1 cubic centimetre or 1½ cubic centimetres of the gastrotoxic serum be similarly injected an ulcer will result. In this way an ulcer similar to those described above may be produced without toxic symptoms. The size of the ulcer depends on the strength and amount of the serum injected. The mucous membrane overlying the injected spot necroses and by the fourth or fifth day has separated, leaving a cleanly punched-out ulcer. I have followed the stages of healing of such ulcers and have found that they become completely healed in from 14 to 28 days, leaving only more or less thickening of the peritoneum and sometimes a little puckering of the mucous membrane. So that one has here a poison which on injection into an animal causes a day's general illness, and if the animal survive leaves ulceration of the stomach which heals up as ulcers produced experimentally in other ways do in from 14 to 28 days. The ulcer may not heal in this way but on the third or fourth day may perforate and give rise to death from general peritonitis, or it may form a local abscess by adhesion to a neighbouring organ. No perforation or local abscess is formed after the first few days. No doubt if it encountered a large blood-vessel gastric hæmorrhage would result.

Mode of action of the gastrotoxin.—I have been able to show that the gastrotoxin of itself is unable to produce necrosis and ulceration of the mucous membrane of the stomach. The actual necrosis is brought about by the gastric juice, and if the gastric juice be put out of action no microscopic lesion can be found as the result of the action of the serum. Although some authorities at the present day consider that the gastric juice plays an important part in the production of gastric ulcer, whilst others deny this supposition, I have not been able to find any experimental evidence that self-digestion actually occurs. Of course, it is quite clear that if the gastric cells are killed by any means, as, for instance, when the blood-supply is cut off or by mechanical or other injury, the gastric juice will digest them, as it does any foreign proteid substance, but I refer to self digestion of the stomach in which the gastric juice attacks a gastric cell which shows no deviation from the normal on microscopic examination.

In order to put the gastric juice out of action, whilst the poison is acting, it is merely necessary to introduce into the guinea-pig's stomach by an œsophageal tube about 15 cubic centimetres of sodium bicarbonate solution, of any strength from 0·8 per cent. upwards, before injecting the serum into the peritoneal cavity. At the same time a control guinea-pig must be injected with the same amount of the same serum at the same time. I have done many such experiments and in all the cases in which the gastric juice was previously neutralised no necrosis of the stomach was produced, but in all the control animals the usual black patches were visible in the mucous membrane. The poison therefore produces some change in the gastric cells which renders them susceptible to the action of the gastric juice. This result is important from the point of view of cytotoxins, because so few observers have ever been able to find any microscopic change on injecting different cytotoxins, and my results show that a change really does occur although it cannot be detected histologically. It is also important from the point of view of gastric ulceration, because it proves that a poison may circulate in the blood which is capable of initiating self-digestion. Whether this is brought about by the neutralisation of some specific resisting power possessed by the cells or whether by merely injuring them, in which case many other poisons may be capable of bringing about the same result, is a very important question. Further observations which I have made tend to show that it is a question of injury to the cell, because other poisons, which cannot be supposed to have any influence on any supposed specific resisting power, may, like gastrotoxin, initiate self-digestion.

Cytotoxic sera obtained by injection of liver cells, cells of the mucous membrane of the intestine, and red blood corpuscles produce necrotic patches in the stomach, which I have shown to be the result of self-digestion by the method of neutralisation of the gastric juice. These sera do not produce such a marked effect upon the stomach as gastrotoxic serum, but when they do produce lesions they are of the same nature. It is therefore probably a fact that all the cytotoxic sera contain a common protoplasmic poison, which is especially toxic for the kind of cell against which it has been formed, but which acts upon all other kinds of cells to a less extent; or if each poison formed against a separate organ is distinct, then they are so nearly allied that their actions overlap and destroy their specificity.

Certain protoplasmic poisons introduced into the stomach may likewise initiate self-digestion by injuring the cells. In the case of the guinea-pig dilute hydrochloric acid up to the strength of 0·7 per cent. may be introduced into the stomach and no harm will result, but if the strength exceed this necrosis of the stomach and ulceration will be produced. Dilute sulphuric acid above 0·8 per cent., dilute lactic acid above 4 per cent., and dilute acetic acid above 2 per cent. will also produce necrosis. If the animal be poisoned with gastrotoxic serum the introduction of these solutions into the stomach, in much greater dilution than is necessary to produce necrosis, will markedly increase the lesions. For instance, if a guinea-pig be injected with a dose of the serum and if at the same time a 0·3 to 0·7 per cent. solution of hydrochloric acid, which is itself inactive, be introduced into the stomach the lesions are much more marked than in the control animal. One has here the two protoplasmic poisons combining to produce self-digestion. It is not possible for hyperacidity of the gastric juice ever to reach such a height as to cause ulceration of itself, but it may increase the tendency to such ulceration not by increasing the peptic activity of the gastric juice but by acting as a protoplasmic poison.

course, include the teachers, the caretaker, and any other persons employed on the school premises. It is well known what a high mortality from consumption there is amongst teachers. I have a very vivid recollection of my Latin master who coughed and hawked away for several years until in the end he became incapacitated by the pulmonary tuberculosis from which he ultimately died. With adequate medical inspection such a thing to-day would not be possible. This high mortality among teachers is a grave reflection on the ventilation and general hygiene of the schools where they have to work.

We now come to the third division of our subject—namely, the importance of the school as a factor in the formation of public opinion, in the dissemination of correct ideas concerning tuberculosis, and in the education of the parents by the children. This factor I believe is of far-reaching and cumulative importance. In spite of all that has been written and said during the last ten years the great bulk of the poorer classes have as yet only the vaguest and often incorrect ideas concerning consumption and the means by which the infection is spread. As an example of this let me tell you the following. A man who was suffering from somewhat extensive pulmonary tuberculosis was being carefully instructed by his medical attendant about the importance of always destroying his sputum either by spitting into a cup containing a disinfectant or by burning it in the fire. He answered, "Oh, doctor, you needn't trouble about me, for whenever I spit I put my foot on it!" When the children once get accurate knowledge of these matters such ignorance will rapidly disappear. There is no more talkative missionary than a youngster full of what he considers important information. The children must be taught the elementary facts concerning the hygiene of tuberculosis, the close relationship between alcoholism and consumption, the dangers of expectoration and coughing, the infectivity of consumption, the value of fresh air, and the many measures to be adopted to prevent the spread of the disease. In order to have this effectually done I would include hygiene and temperance among the subjects concerning which the inspectors must report.[8] The teachers themselves must first be taught and I strongly urge that they should be very thoroughly grounded in the fundamental facts bearing on infection, the varying virulence of the infective agent, and the differing resisting power of the host or person infected. To quote Professor H. Corby, "The teacher should strive to become an apostle and evangelist of hygiene."[9]

Enthusiasm in the teachers begets enthusiasm in the taught. Children have a lively sense of their importance and many of them are delighted to be charged with a gospel. As an example of the help which they can at times give Dr. E. W. Hope, the medical officer of health of Liverpool, tells me that at the time of the last census all the teachers of the elementary schools in Liverpool explained the meaning of the census to the children with the help of a leaflet issued by the public health department. The youngsters went home full of importance and helped their parents to fill in the necessary form with the result that the returns were much more accurate than usual.

To summarise, in conclusion:—1. Without infection there is no tuberculosis. 2. Pulmonary tuberculosis is either "open," in which case the patients are infectious, or "closed," then the patients are not dangerous to others. 3. School-going children as a class are healthy, only ½ per cent. show definite signs of pulmonary tuberculosis. About from 10 to 15 per cent. are predisposed to consumption and in all probability suffer from latent tuberculosis. Special care should be given to these children. 4. In Ireland these percentages are higher. The *periodical medical examination* of the scholars, teachers, and caretakers is essential, and every effort should be made to obtain this boon for Ireland. 5. School hygiene cannot be divorced from home hygiene. 6. The active coöperation of the school medical officer and the medical officer of health is most desirable and tends to efficiency and economy of administration. 7. Tuberculosis of infants and children is almost always due to human infection and that infection generally occurs at home. 8. The segregation of incurable and dangerous consumptives in union infirmaries and elsewhere will greatly diminish the incidence of infection among infants and young children. 9. The children must be utilised to educate their parents. The schools should be centres for the dissemination of accurate information concerning consumption and thus help to form public opinion.

Liverpool.

---

[8] THE LANCET, Nov. 17th, 1906, p. 1393.

[9] Annual Congress of the Royal Institute of Public Health, 1906: THE LANCET, July 14th, 1906.

THE EXPERIMENTAL PRODUCTION OF GASTRIC ULCERATION BY INJECTION OF GASTROTOXIN.[1]

BY CHARLES BOLTON, M.D., D.SC. LOND.,
M.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL;
RESEARCH SCHOLAR OF THE GROCERS' COMPANY.

FOR the past five years I have been working upon the pathology of gastric ulceration from an entirely new point of view. Some of my results have already been published in three communications to the Royal Society,[2] and it is my intention to-night to give you a short *résumé* of the main features of the work.

Starting from the facts that specific bacteriolytic sera could be obtained which would destroy the bacteria against which they were formed, and that similarly hæmolytic sera active against red blood corpuscles and in a few instances cytolytic sera had been produced, I conceived the idea of preparing a gastrotoxic serum active against gastric cells, thinking that this would throw light not only upon the phenomena of cytotoxic action but also upon the obscure problem of gastric ulceration. I succeeded in producing such a serum, and without further introduction will describe—first, the method of preparation of the serum; and secondly, the action of the serum: (*a*) on injection into the living animal and (*b*) in the test tube.

I.—*Method of Preparation of the Serum.*

The serum is prepared by injecting the gastric cells of one animal into another, the blood serum of the injected animal becoming poisonous for the kind of gastric cells which have been injected. Three sera have in this way been obtained: (1) By injection of the gastric cells of the guinea-pig into the rabbit; (2) by injection of the gastric cells of the rabbit into the rabbit; and (3) by injection of human gastric cells into the rabbit or the domestic fowl. The human stomach was obtained from operation cases at the hospital, the mucous membrane being scraped off and injected forthwith into the rabbit or fowl. In the other cases the rabbit or guinea-pig, as the case may be, whose gastric cells are to be injected is starved for 24 hours to insure the stomach being empty. The animal is killed, the thoracic viscera are cut out, and a cannula is inserted into the thoracic aorta, through which a stream of sterilised salt solution is run until the abdominal organs are washed quite free from blood. The stomach is cut out, opened, and thoroughly washed. The mucous membrane is then scraped off on a sterilised plate, ground up into an emulsion with salt solution, and injected into the peritoneal cavity of a rabbit. A fresh filtered extract of mucous membrane may be used, but it takes longer to prepare and on the whole does not possess any advantages over the injection of the cells themselves. After seven or ten days the injection is repeated, and when four or five have been given the blood serum of the injected rabbit is found to be highly toxic. The blood is obtained by opening a vessel of the ear, and in this way from 30 to 40 cubic centimetres can easily be obtained each week. The animal may be thus alternately bled and injected for about two months, or more in some cases, after which the toxicity of the serum falls. The blood is whipped and centrifugalised and the serum is always used fresh on the day on which it is obtained. I have immunised more than 150 rabbits in this way during the course of my work.

II.—*Action of the Serum on Injection.*

The following remarks apply to the serum obtained by injecting the rabbit with guinea-pig's stomach cells. No lesion is found in the stomach of the rabbit which has formed the gastrotoxin and no lesion results on injection of the serum into another rabbit. In half an hour after intraperitoneal injection of the serum into a guinea-pig the symptoms of intoxication are well marked and death occurs within 24 hours. Doses of from 1 to 5 cubic centimetres are more or less uncertain in their action, but a dose of 10 cubic centimetres is fatal for a guinea-pig weighing from 200 to 300 grammes within 24 hours.

---

[1] A paper read before the Medical Society of London on Feb. 24th, 1908.

[2] Proceedings of the Royal Society: (*a*) vol. lxxiv., p. 135, 1904; (*b*) B. vol. lxxvii., p. 426, 1906; (*c*) B. vol. lxxix., p. 533, 1907.

The post-mortem lesions are limited to the stomach and always occur during the first 24 hours after injection. If an animal survive, lesions are found on the next day in its stomach if the dose has been sufficient, and no further lesions nor any symptoms occur after this time. The intestine may be extremely congested but shows no other lesion. This limitation of the lesions to the stomach does not indicate that the serum is specific in its action. Other tissues are also affected as the symptoms and death of the animal shows. I have proved that this is the case by studying the action of the serum on other tissues *in vitro*, and also by showing that sera formed against other tissues are able to produce, although to a less extent, precisely similar lesions in the stomach. The lesions consist of patches of necrosis in the mucous membrane. The areas of necrosis are stained black by altered blood pigment; they are usually multiple and very often nearly the whole mucous membrane is affected, but sometimes only two or three patches may be present or even one only. The patches vary in size from that of a pin's head to that of a large area occupying a third or more of the mucous membrane of the stomach. The patches are sharply marked off from the rest of the mucous membrane which appears to be normal and they are found most commonly near or on one of the curvatures, but may occur anywhere in the stomach. After from 24 to 48 hours the black tissue has completely disappeared, leaving perfectly clean and sharply punched-out ulcers.

On microscopic examination the necrosed patches are quite sharply marked off from the normal tissue and do not extend beyond the muscularis mucosæ, the muscular and peritoneal coats being normal.

The blood in the vessels is generally normal and frequently so when they are situated in the necrosed patch. In other cases it is hæmolysed and may occasionally infiltrate the submucous tissue. The gland cells in the necrosed patch are either very faintly stained, or quite unstained, their outlines being clouded and the cells shrunken, or the whole patch may look like a brownish coagulated mass in which no structure can be made out; at other times strands of interstitial tissue alone are seen, the gland cells having completely disappeared. The process evidently begins at the free surface of the mucous membrane and extends towards the bases of the glands, because cases are seen in which some patches are situated on the surface of the mucous membrane only. After 48 hours the edges and base of the ulcer are found to be infiltrated with leucocytes.

In order to study the healing of these ulcers I have found it necessary to inject the serum directly into the stomach wall of the guinea-pig after opening the abdomen aseptically, because if one injects into the blood stream an amount sufficient to produce ulceration the animal nearly always dies. If 2 cubic centimetres of normal guinea-pig's serum, normal rabbit's serum, or salt solution be injected into the wall of the guinea-pig's stomach so as to cause a local œdema, it will be found by the next day or the day after that the solution has been completely absorbed and that no lesion has resulted; but if 1 cubic centimetre or 1½ cubic centimetres of the gastrotoxic serum be similarly injected an ulcer will result. In this way an ulcer similar to those described above may be produced without toxic symptoms. The size of the ulcer depends on the strength and amount of the serum injected. The mucous membrane overlying the injected spot necroses and by the fourth or fifth day has separated, leaving a cleanly punched-out ulcer. I have followed the stages of healing of such ulcers and have found that they become completely healed in from 14 to 28 days, leaving only more or less thickening of the peritoneum and sometimes a little puckering of the mucous membrane. So that one has here a poison which on injection into an animal causes a day's general illness, and if the animal survive leaves ulceration of the stomach which heals up as ulcers produced experimentally in other ways do in from 14 to 28 days. The ulcer may not heal in this way but on the third or fourth day may perforate and give rise to death from general peritonitis, or it may form a local abscess by adhesion to a neighbouring organ. No perforation or local abscess is formed after the first few days. No doubt if it encountered a large blood-vessel gastric hæmorrhage would result.

Mode of action of the gastrotoxin.—I have been able to show that the gastrotoxin of itself is unable to produce necrosis and ulceration of the mucous membrane of the stomach. The actual necrosis is brought about by the gastric juice, and if the gastric juice be put out of action no microscopic lesion can be found as the result of the action of the serum. Although some authorities at the present day consider that the gastric juice plays an important part in the production of gastric ulcer, whilst others deny this supposition, I have not been able to find any experimental evidence that self-digestion actually occurs. Of course, it is quite clear that if the gastric cells are killed by any means, as, for instance, when the blood-supply is cut off or by mechanical or other injury, the gastric juice will digest them, as it does any foreign proteid substance, but I refer to self digestion of the stomach in which the gastric juice attacks a gastric cell which shows no deviation from the normal on microscopic examination.

In order to put the gastric juice out of action, whilst the poison is acting, it is merely necessary to introduce into the guinea-pig's stomach by an œsophageal tube about 15 cubic centimetres of sodium bicarbonate solution, of any strength from 0·8 per cent. upwards, before injecting the serum into the peritoneal cavity. At the same time a control guinea-pig must be injected with the same amount of the same serum at the same time. I have done many such experiments and in all the cases in which the gastric juice was previously neutralised no necrosis of the stomach was produced, but in all the control animals the usual black patches were visible in the mucous membrane. The poison therefore produces some change in the gastric cells which renders them susceptible to the action of the gastric juice. This result is important from the point of view of cytotoxins, because so few observers have ever been able to find any microscopic change on injecting different cytotoxins, and my results show that a change really does occur although it cannot be detected histologically. It is also important from the point of view of gastric ulceration, because it proves that a poison may circulate in the blood which is capable of initiating self-digestion. Whether this is brought about by the neutralisation of some specific resisting power possessed by the cells or whether by merely injuring them, in which case many other poisons may be capable of bringing about the same result, is a very important question. Further observations which I have made tend to show that it is a question of injury to the cell, because other poisons, which cannot be supposed to have any influence on any supposed specific resisting power, may, like gastrotoxin, initiate self-digestion.

Cytotoxic sera obtained by injection of liver cells, cells of the mucous membrane of the intestine, and red blood corpuscles produce necrotic patches in the stomach, which I have shown to be the result of self-digestion by the method of neutralisation of the gastric juice. These sera do not produce such a marked effect upon the stomach as gastrotoxic serum, but when they do produce lesions they are of the same nature. It is therefore probably a fact that all the cytotoxic sera contain a common protoplasmic poison, which is especially toxic for the kind of cell against which it has been formed, but which acts upon all other kinds of cells to a less extent; or if each poison formed against a separate organ is distinct, then they are so nearly allied that their actions overlap and destroy their specificity.

Certain protoplasmic poisons introduced into the stomach may likewise initiate self-digestion by injuring the cells. In the case of the guinea-pig dilute hydrochloric acid up to the strength of 0·7 per cent. may be introduced into the stomach and no harm will result, but if the strength exceed this necrosis of the stomach and ulceration will be produced. Dilute sulphuric acid above 0·8 per cent., dilute lactic acid above 4 per cent., and dilute acetic acid above 2 per cent. will also produce necrosis. If the animal be poisoned with gastrotoxic serum the introduction of these solutions into the stomach, in much greater dilution than is necessary to produce necrosis, will markedly increase the lesions. For instance, if a guinea-pig be injected with a dose of the serum and if at the same time a 0·3 to 0·7 per cent. solution of hydrochloric acid, which is itself inactive, be introduced into the stomach the lesions are much more marked than in the control animal. One has here the two protoplasmic poisons combining to produce self-digestion. It is not possible for hyperacidity of the gastric juice ever to reach such a height as to cause ulceration of itself, but it may increase the tendency to such ulceration not by increasing the peptic activity of the gastric juice but by acting as a protoplasmic poison.

course, include the teachers, the caretaker, and any other persons employed on the school premises. It is well known what a high mortality from consumption there is amongst teachers. I have a very vivid recollection of my Latin master who coughed and hawked away for several years until in the end he became incapacitated by the pulmonary tuberculosis from which he ultimately died. With adequate medical inspection such a thing to-day would not be possible. This high mortality among teachers is a grave reflection on the ventilation and general hygiene of the schools where they have to work.

We now come to the third division of our subject—namely, the importance of the school as a factor in the formation of public opinion, in the dissemination of correct ideas concerning tuberculosis, and in the education of the parents by the children. This factor I believe is of far-reaching and cumulative importance. In spite of all that has been written and said during the last ten years the great bulk of the poorer classes have as yet only the vaguest and often incorrect ideas concerning consumption and the means by which the infection is spread. As an example of this let me tell you the following. A man who was suffering from somewhat extensive pulmonary tuberculosis was being carefully instructed by his medical attendant about the importance of always destroying his sputum either by spitting into a cup containing a disinfectant or by burning it in the fire. He answered, "Oh, doctor, you needn't trouble about me, for whenever I spit I put my foot on it!" When the children once get accurate knowledge of these matters such ignorance will rapidly disappear. There is no more talkative missionary than a youngster full of what he considers important information. The children must be taught the elementary facts concerning the hygiene of tuberculosis, the close relationship between alcoholism and consumption, the dangers of expectoration and coughing, the infectivity of consumption, the value of fresh air, and the many measures to be adopted to prevent the spread of the disease. In order to have this effectually done I would include hygiene and temperance among the subjects concerning which the inspectors must report.[8] The teachers themselves must first be taught and I strongly urge that they should be very thoroughly grounded in the fundamental facts bearing on infection, the varying virulence of the infective agent, and the differing resisting power of the host or person infected. To quote Professor H. Corby, "The teacher should strive to become an apostle and evangelist of hygiene."[9]

Enthusiasm in the teachers begets enthusiasm in the taught. Children have a lively sense of their importance and many of them are delighted to be charged with a gospel. As an example of the help which they can at times give Dr. E. W. Hope, the medical officer of health of Liverpool, tells me that at the time of the last census all the teachers of the elementary schools in Liverpool explained the meaning of the census to the children with the help of a leaflet issued by the public health department. The youngsters went home full of importance and helped their parents to fill in the necessary form with the result that the returns were much more accurate than usual.

To summarise, in conclusion:—1. Without infection there is no tuberculosis. 2. Pulmonary tuberculosis is either "open," in which case the patients are infectious, or "closed," then the patients are not dangerous to others. 3. School-going children as a class are healthy, only ½ per cent. show definite signs of pulmonary tuberculosis. About from 10 to 15 per cent. are predisposed to consumption and in all probability suffer from latent tuberculosis. Special care should be given to these children. 4. In Ireland these percentages are higher. The *periodical medical examination* of the scholars, teachers, and caretakers is essential, and every effort should be made to obtain this boon for Ireland. 5. School hygiene cannot be divorced from home hygiene. 6. The active coöperation of the school medical officer and the medical officer of health is most desirable and tends to efficiency and economy of administration. 7. Tuberculosis of infants and children is almost always due to human infection and that infection generally occurs at home. 8. The segregation of incurable and dangerous consumptives in union infirmaries and elsewhere will greatly diminish the incidence of infection among infants and young children. 9. The children must be utilised to educate their parents. The schools should be centres for the dissemination of accurate information concerning consumption and thus help to form public opinion.

Liverpool.

---

[8] THE LANCET, Nov. 17th, 1906, p. 1393.

[9] Annual Congress of the Royal Institute of Public Health, 1906; THE LANCET, July 14th, 1906.

THE EXPERIMENTAL PRODUCTION OF GASTRIC ULCERATION BY INJECTION OF GASTROTOXIN.[1]

BY CHARLES BOLTON, M.D., D.SC. LOND.,
M.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL;
RESEARCH SCHOLAR OF THE GROCERS' COMPANY.

FOR the past five years I have been working upon the pathology of gastric ulceration from an entirely new point of view. Some of my results have already been published in three communications to the Royal Society,[2] and it is my intention to-night to give you a short *résumé* of the main features of the work.

Starting from the facts that specific bacteriolytic sera could be obtained which would destroy the bacteria against which they were formed, and that similarly hæmolytic sera active against red blood corpuscles and in a few instances cytolytic sera had been produced, I conceived the idea of preparing a gastrotoxic serum active against gastric cells, thinking that this would throw light not only upon the phenomena of cytotoxic action but also upon the obscure problem of gastric ulceration. I succeeded in producing such a serum, and without further introduction will describe—first, the method of preparation of the serum; and secondly, the action of the serum: (*a*) on injection into the living animal and (*b*) in the test tube.

I.—*Method of Preparation of the Serum.*

The serum is prepared by injecting the gastric cells of one animal into another, the blood serum of the injected animal becoming poisonous for the kind of gastric cells which have been injected. Three sera have in this way been obtained: (1) By injection of the gastric cells of the guinea-pig into the rabbit; (2) by injection of the gastric cells of the rabbit into the rabbit; and (3) by injection of human gastric cells into the rabbit or the domestic fowl. The human stomach was obtained from operation cases at the hospital, the mucous membrane being scraped off and injected forthwith into the rabbit or fowl. In the other cases the rabbit or guinea-pig, as the case may be, whose gastric cells are to be injected is starved for 24 hours to insure the stomach being empty. The animal is killed, the thoracic viscera are cut out, and a cannula is inserted into the thoracic aorta, through which a stream of sterilised salt solution is run until the abdominal organs are washed quite free from blood. The stomach is cut out, opened, and thoroughly washed. The mucous membrane is then scraped off on a sterilised plate, ground up into an emulsion with salt solution, and injected into the peritoneal cavity of a rabbit. A fresh filtered extract of mucous membrane may be used, but it takes longer to prepare and on the whole does not possess any advantages over the injection of the cells themselves. After seven or ten days the injection is repeated, and when four or five have been given the blood serum of the injected rabbit is found to be highly toxic. The blood is obtained by opening a vessel of the ear, and in this way from 30 to 40 cubic centimetres can easily be obtained each week. The animal may be thus alternately bled and injected for about two months, or more in some cases, after which the toxicity of the serum falls. The blood is whipped and centrifugalised and the serum is always used fresh on the day on which it is obtained. I have immunised more than 150 rabbits in this way during the course of my work.

II.—*Action of the Serum on Injection.*

The following remarks apply to the serum obtained by injecting the rabbit with guinea-pig's stomach cells. No lesion is found in the stomach of the rabbit which has formed the gastrotoxin and no lesion results on injection of the serum into another rabbit. In half an hour after intraperitoneal injection of the serum into a guinea-pig the symptoms of intoxication are well marked and death occurs against which it is formed. Absolute specificity is therefore unknown.

---

[1] A paper read before the Medical Society of London on Feb. 24th, 1908.

[2] Proceedings of the Royal Society: (*a*) vol. lxxiv., p. 135, 1904. (*b*) B. vol. lxxvii., p. 426, 1906; (*c*) B. vol. lxxix., p. 533, 1907.

V.—*Human Gastrotoxin.*

I have been able to show that a serum can be prepared which is active against human gastric cells. All that need be said in this connexion is that the reactions displayed by this serum in the test-tube are absolutely the same as I have already described above.

VI.—*Gastrotoxic Serum produced by Injecting the Rabbit with Rabbit's Gastric Cells.*

The rabbit does not respond very readily to the injection of rabbit's stomach cells, but that it does respond I have been able to prove. The serum so obtained produces no effect upon the rabbit itself nor upon any other rabbit, but it is toxic for the guinea-pig. The symptoms and post-mortem lesions occurring in the guinea-pig as the result of injection of this serum are identical with those which have been described in the case of the guinea-pig-rabbit gastrotoxic serum. The stomach lesions consist of patches of necrosis and ulceration. Previous mixture with rabbit's stomach cells does not render the serum inactive, thereby showing that these cells have no affinities corresponding to those of the immune body acting upon the guinea-pig's tissues. It is more than likely that the rabbit during the absorption of rabbit's tissues, in addition to producing a poison acting upon the guinea-pig's tissues, also forms one acting upon its own, but that this action is prevented by the concomitant formation of an anti-immune body or anti-complement. I have already stated that the normal rabbit produces a hæmolysin for the guinea-pig's corpuscles, which it no doubt forms in response to the absorption of its own tissues. So far as we know the same immunising mechanism, which is concerned in the production of an immune body, is also concerned in the production of an anti-immune body or anti-complement. It seems, therefore, that the formation of an anti-body is the natural consequence of the formation of an immune body. Whether any conditions exist which can upset the formation of the one and leave the other intact, thereby leading to an auto-intoxication, we have yet no experimental data to assist us in deciding.

VII.—*Conclusion.*

It would be premature to apply these results directly to the explanation of human gastric ulcer, but they open up new lines of thought along which to prosecute further research. It is possible that not only certain endogenous but also certain exogenous poisons may be capable of initiating self-digestion through the blood stream and that the production of such lesions may be facilitated not only by hyperacidity of the gastric juice but also by other bodies introduced with the food. It seems that all ulcers produced by digestion of dead or devitalised tissue are essentially acute and, since human gastric ulcer is commonly a chronic malady, it is not so much the actual mode of production which it is necessary to explain as the fact that the ulcer so persistingly refuses to heal. It is possible that this chronicity may depend upon a secondary bacterial infection of the ulcer largely owing to muscular insufficiency, but upon the latter point I hope to be able to speak more definitely at a future date.

Devonshire-street, W.

LEPROSY: SOME NOTES ON ITS CAUSATION, SYMPTOMS, AND TREATMENT,

BASED ON AN EXPERIENCE OF 152 LEPERS IN THE LEPER JAIL OF THE UNITED PROVINCES, INDIA.[1]

BY THOMAS HUNTER, M.A., B.Sc., M.D. GLASG.,
CAPTAIN, I.M.S.

FROM April 26th, 1905, to Feb. 24th, 1907, in addition to the ordinary duties of a civil surgeon of the Indian Medical Service I held the post of superintendent of the Rai Bareli jail. This jail has a population of about 500 prisoners and in it is a block for leper prisoners. To this block are sent all leper convicts sentenced in the United Provinces of Agra and Oudh. On the day on which I took over charge of the jail the leper block contained 64 lepers and during my term as superintendent 88 lepers were admitted. Out of this total of 152 lepers 24 were for various reasons not examined in detail by me personally. On the records of the balance, 128 lepers, this thesis is based. The total number of cases examined with reference to certain points it will be found is not always the same, as in some of the cases remaining when I took over charge complete notes were not recorded, but the figures given for the various inquiries in all cases refer to series of prisoners without selection.

PART I.—CAUSATION.

The causation of leprosy, in spite of the discovery of the bacillus lepræ, the immediate cause of the symptoms of the disease, remains the subject of discussion. The weight of opinion is that the disease is contagious and that each new case arises by contagion from another case. Opposed to this is the opinion so strongly held by Mr. Jonathan Hutchinson that leprosy arises from the eating of bad fish. More recent than both of these is the suggestion that the disease is conveyed by the bite of the mosquito and the bed bug. The third of these explanations of the origin of leprosy will be little more than mentioned. A letter signed by E. S. Goodhue, Government physician, Hawaii, which appeared in THE LANCET of May 12th, 1906, p. 1347, claimed that bacilli lepræ had been discovered in mosquitoes (*Culex pinguis*) and bed bugs (*Cimex lectularius*) by Dr. W. J. Goodhue, medical superintendent of Molokai Leper Settlement, and suggested that those were the spreading agents. Details have not yet been published, but that the disease should be, even to any great extent, communicated by mosquitoes or bed bugs seems improbable when one considers the comparatively small number of persons affected in a country like India, where mosquitoes and bed bugs are practically of universal distribution, and when one contrasts the prevalence of leprosy with that of malaria, a mosquito-spread disease.

That leprosy is caused by fish-eating is a proposition that has more of the elements of probability, and when supported by the weighty authority of Mr. Hutchinson is one which demands careful consideration. This is no new doctrine in India, for it is a common belief amongst natives of that country that fish food, and especially fish eaten with milk, may bring on leprosy. The Indian Leprosy Commission of 1890-91 considered the question of fish-eating as a possible causative factor, and after examination of several hundred persons affected the commissioners put on record their opinion that there "was no doubt that the consumption of fish was not the cause of leprosy."[2] Mr. Hutchinson was not satisfied with that verdict, however, and having in 1902-03 toured India to investigate at first hand evidence for or against his hypothesis, he has stated in his book published on the subject that "he came away with an assured conviction that whilst there is in India very much which gives strong support to the fish hypothesis there is nowhere anything which controverts it."[3]

Mr. Hutchinson is inclined to refuse due weight to the statistics of the Indian Leprosy Commission and to get behind them by saying that many reasons combined to render open to doubt statements made by lepers about having eaten or not having eaten fish. He points out that the native of India is very apt to answer not according to actual fact but according to fancy or according as he thinks he is wanted to answer; and he thinks the commissioners may have been satisfied with an easy inquiry and that they may have too readily accepted answers given them. The commission report, too, he says, does not specify whether fresh fish or salted fish, fresh-water fish or sea fish, was inquired about, and he believes that confusion from misunderstandings on these points may have falsified their figures. And finally he states that since the commission report the fish hypothesis has embraced "commensal communication" as a possible additional factor in the spread of the disease. In the present inquiry the fish hypothesis has been considered with all these points in mind.

The fish hypothesis as held by Mr. Hutchinson briefly stated is that leprosy is acquired by eating bad fish, but that in some few cases persons who have never eaten fish may have acquired the disease from food contaminated by having been touched by a leper (commensal communication). Uncured, non-salted fish kept till decomposition has set in is not excluded,[4] but according to Mr. Hutchinson

---

[1] Thesis for M.D. degree, University of Glasgow.

[2] Report of the Indian Leprosy Commission, p. 344.

[3] On Leprosy and Fish Eating, by Jonathan Hutchinson, p. 122.

[4] Ibid., pp. v., 44-46.

However produced gastric ulcers heal in from 14 to 28 days provided that the health of the body is normal, and that the food, the gastric secretion, and the motor activity of the stomach are also normal. It becomes now necessary to inquire whether any conditions exist which may retard the healing of a gastric ulcer and make it become chronic. This is a subject upon which I am working at the present time, but I have already obtained a few interesting results. I first endeavoured to ascertain whether repeated injection of the gastrotoxic serum would lead to chronic ulceration of the stomach, and I found that far from this being the case the animals developed immunity to the serum. 5 cubic centimetres of the serum heated to 55° C. for half an hour were injected each week and after 10 or 12 injections the animals were protected against a lethal dose of the serum. The serum also had the power of conferring passive immunity upon another guinea-pig, so that when it was injected with a mixture of gastrotoxic serum and immune serum no lesion resulted.

In order to study the effects of abnormal local conditions upon the healing of the ulcer I have used the method of local injection into the stomach wall to produce the ulcer in the first instance. It is quite easy to inject the serum into the anterior or posterior wall or near the cardiac or pyloric orifice, and I have found that ulcers produced in these positions heal with equal rapidity in animals otherwise normal. The effects of hyperacidity of the gastric juice have been tested by feeding the animals in which ulcers had been produced with food soaked in 0·6 per cent. hydrochloric acid solution. This is a high degree of acidity and the guinea-pigs do not like it, but they will eat the food when they are hungry. I have found that on this diet the ulcers heal up quite as quickly as on a normal diet. Hydrochloric acid combined with proteid was also used and the result was the same whether the ulcer was situated in the body or at the pyloric end of the stomach.

With regard to partial neutralisation of the gastric juice I cannot say very much as the experiments are still in progress. The animals are fed on food soaked in 4 per cent. sodium bicarbonate solution. The base of the ulcer is not so clean as when the gastric juice is active and there appears to be more thickening, but I have not yet ascertained whether the healing is delayed. These results are due to the growth of bacteria in the ulcer, which normally should be inhibited by the acid gastric juice.

I will now leave this part of the subject, as my observations on the effects of motor insufficiency are too immature to record and will consider the action of the serum *in vitro*.

III.—*Analysis of the Serum in the Test-tube.*

The serum is capable of bringing about two well-defined reactions *in vitro*:—It is (1) hæmolytic, and (2) contains several precipitins.

1. *Hæmolysin.*—The normal serum of the rabbit is to some extent hæmolytic for guinea-pig's red blood corpuscles; this property is destroyed by heat and the heated serum cannot be re-activated by normal guinea-pig's serum which does not contain a suitable complement. I have been able to demonstrate that the gastrotoxin contains two distinct hæmolysins. The first hæmolysin is an increase of the normal hæmolysin of the rabbit. The increase occurs a few days after the first injection of gastric cells. The second hæmolysin is an artificial product and is distinguished from the former because after heating it can be re-activated by normal guinea-pig's complement. It appears in the blood serum at a later date and is only found in any considerable amount after a second injection of gastric cells has been administered. The hæmolysin is directly produced by absorption of the stomach cells and not of blood corpuscles, because the stomach cells are washed quite free from blood before injection.

This hæmolytic factor takes no part in the production of the gastric necrosis, because it has been already shown that the lesions are not the result of hæmorrhage, and in addition to this if the gastrotoxin be previously mixed with guinea-pig's stomach cells *in vitro* it is thereby rendered incapable of producing lesions on injection, although it can still hæmolyse blood corpuscles. I may here mention that the hæmorrhages produced by a hæmolytic serum are not due to the factor liberating the hæmoglobin from the red corpuscles, but are due to a protoplasmic poison acting upon the capillary wall, the so-called hæmorrhagin.

2. *Precipitins.*—The gastrotoxic serum possesses the property of precipitating the soluble proteid contained in a saline extract of guinea-pig's stomach cells. Such an extract is made by grinding up the cells with normal salt solution in a glass mortar and filtering through a Berkefeld filter. A clear albuminous solution is thus obtained. The addition of a few drops of this solution to the immune serum results in the formation of a well-marked precipitate, which collects at the bottom of the tube, forming a thick deposit. The serum will likewise precipitate albuminous extracts of liver and small intestine cells and the blood serum of the guinea-pig. The strongest action is, however, exerted upon the extract of stomach cells.

I have been able to show that these precipitins are multiple, as they can be separated one by one from solution and during the process of immunisation the different precipitins appear at different times in the blood serum. Removal of the precipitin for the stomach cell proteid, however, destroys the power of the serum to precipitate any other albuminous fluid. The precipitins, therefore, for the various organic extracts of the body are different, but their actions overlap to a considerable extent. Absolute specificity does not exist. These precipitins play no part in the production of the necrotic patches in the stomach, because it is well known that precipitins cause no lesion on injection, the precipitate being soluble in excess of the precipitable substance, so that any precipitate formed would be dissolved by the excess of the animals' fluids present.

3. *Gastrolysin.*—I have never observed solution of the gastric cells in the test-tube. A more or less definite hyaline change occurs in the cells, but I do not wish to lay any great stress on this point at present, because it is only very slight and I have not yet succeeded in determining its nature. I will merely here repeat what I have stated before that there is a definite poison present in the serum which attacks the cells themselves *in vivo*, and that the lesions are brought about by the interaction of an immune body and complement, and further that actual necrosis of the cell does not result, but merely a functional change rendering it susceptible to the action of the gastric juice.

IV.—*Specificity of the Gastrotoxin.*

The specificity has been tested by ascertaining (1) whether the gastrotoxin has the power of acting upon other tissues; (2) whether sera formed against other tissues can act upon gastric cells; and (3) what power various tissues possess of removing the gastrotoxin from solution by combining with it, thus rendering the serum inactive.

1. *Action of the gastrotoxin upon other tissues.*—I have already stated that the serum can hæmolyse red blood corpuscles and precipitate the albuminous extracts of other tissues in the test-tube. Although no gross lesion can be found *in vivo* apart from those of the stomach, the facts that the animal is killed and that it exhibits marked symptoms of intoxication are quite sufficient to show that the action is not limited to the stomach.

2. *Action of other sera.*—Three sera have been used—hepatotoxin, enterotoxin, and hæmolysin, formed respectively by injecting liver cells, intestine cells, and red blood corpuscles.

Each serum on injection produces gastric lesions of the same character as those produced by the gastrotoxin, but of a much less pronounced nature generally. I have been able to show that this is likewise a process of *self-digestion*, and that the various acids mentioned above on introduction into the stomach increase the lesions. Hepatotoxin and enterotoxin are hæmolytic in the test-tube and they contain multiple precipitins which act most powerfully on the tissues against which they are formed.

3. *Removal of the gastrotoxin by various tissues.*—The serum was exposed to the action of various cells of the guinea-pig previously to injection. Gastric cells are able to remove completely the poison and to render the serum inactive. Liver and intestinal cells can do so to some extent. If the serum is a weak one the action may be destroyed, but otherwise it is merely reduced. Red blood corpuscles are also able to some extent to remove the poison. The hæmolytic factor of the gastrotoxin can be removed from solution by liver and intestinal cells and red blood corpuscles, but gastric cells, although they render the serum inactive *in vivo*, are unable to combine with the hæmolysin and to prevent its action *in vitro*. Rabbit's tissues are absolutely unable to affect the action of the serum. It is probably the case that all the cytotoxic sera are of the same nature, and that each serum contains poisons which will attack all the cells of the body but more especially the cells

against which it is formed. Absolute specificity is therefore unknown.

V.—*Human Gastrotoxin.*

I have been able to show that a serum can be prepared which is active against human gastric cells. All that need be said in this connexion is that the reactions displayed by this serum in the test-tube are absolutely the same as I have already described above.

VI.—*Gastrotoxic Serum produced by Injecting the Rabbit with Rabbit's Gastric Cells.*

The rabbit does not respond very readily to the injection of rabbit's stomach cells, but that it does respond I have been able to prove. The serum so obtained produces no effect upon the rabbit itself nor upon any other rabbit, but it is toxic for the guinea-pig. The symptoms and post-mortem lesions occurring in the guinea-pig as the result of injection of this serum are identical with those which have been described in the case of the guinea-pig-rabbit gastrotoxic serum. The stomach lesions consist of patches of necrosis and ulceration. Previous mixture with rabbit's stomach cells does not render the serum inactive, thereby showing that these cells have no affinities corresponding to those of the immune body acting upon the guinea-pig's tissues. It is more than likely that the rabbit during the absorption of rabbit's tissues, in addition to producing a poison acting upon the guinea-pig's tissues, also forms one acting upon its own, but that this action is prevented by the concomitant formation of an anti-immune body or anti-complement. I have already stated that the normal rabbit produces a hæmolysin for the guinea-pig's corpuscles, which it no doubt forms in response to the absorption of its own tissues. So far as we know the same immunising mechanism, which is concerned in the production of an immune body, is also concerned in the production of an anti-immune body or anti-complement. It seems, therefore, that the formation of an anti-body is the natural consequence of the formation of an immune body. Whether any conditions exist which can upset the formation of the one and leave the other intact, thereby leading to an auto-intoxication, we have yet no experimental data to assist us in deciding.

VII.—*Conclusion.*

It would be premature to apply these results directly to the explanation of human gastric ulcer, but they open up new lines of thought along which to prosecute further research. It is possible that not only certain endogenous but also certain exogenous poisons may be capable of initiating self-digestion through the blood stream and that the production of such lesions may be facilitated not only by hyperacidity of the gastric juice but also by other bodies introduced with the food. It seems that all ulcers produced by digestion of dead or devitalised tissue are essentially acute and, since human gastric ulcer is commonly a chronic malady, it is not so much the actual mode of production which it is necessary to explain as the fact that the ulcer so persistingly refuses to heal. It is possible that this chronicity may depend upon a secondary bacterial infection of the ulcer largely owing to muscular insufficiency, but upon the latter point I hope to be able to speak more definitely at a future date.

Devonshire-street, W.

LEPROSY: SOME NOTES ON ITS CAUSATION, SYMPTOMS, AND TREATMENT,

BASED ON AN EXPERIENCE OF 152 LEPERS IN THE LEPER JAIL OF THE UNITED PROVINCES, INDIA.[1]

By THOMAS HUNTER, M.A., B.Sc., M.D. GLASG.,
CAPTAIN, I.M.S.

FROM April 26th, 1905, to Feb. 24th, 1907, in addition to the ordinary duties of a civil surgeon of the Indian Medical Service I held the post of superintendent of the Rai Bareli jail. This jail has a population of about 500 prisoners and in it is a block for leper prisoners. To this block are sent all leper convicts sentenced in the United Provinces of Agra and Oudh. On the day on which I took over charge of the jail the leper block contained 64 lepers and during my term as superintendent 88 lepers were admitted. Out of this total of 152 lepers 24 were for various reasons not examined in detail by me personally. On the records of the balance, 128 lepers, this thesis is based. The total number of cases examined with reference to certain points it will be found is not always the same, as in some of the cases remaining when I took over charge complete notes were not recorded, but the figures given for the various inquiries in all cases refer to series of prisoners without selection.

PART I.—CAUSATION.

The causation of leprosy, in spite of the discovery of the bacillus lepræ, the immediate cause of the symptoms of the disease, remains the subject of discussion. The weight of opinion is that the disease is contagious and that each new case arises by contagion from another case. Opposed to this is the opinion so strongly held by Mr. Jonathan Hutchinson that leprosy arises from the eating of bad fish. More recent than both of these is the suggestion that the disease is conveyed by the bite of the mosquito and the bed bug. The third of these explanations of the origin of leprosy will be little more than mentioned. A letter signed by E. S. Goodhue, Government physician, Hawaii, which appeared in THE LANCET of May 12th, 1906, p. 1347, claimed that bacilli lepræ had been discovered in mosquitoes (*Culex pinguis*) and bed bugs (*Cimex lectularius*) by Dr. W. J. Goodhue, medical superintendent of Molokai Leper Settlement, and suggested that those were the spreading agents. Details have not yet been published, but that the disease should be, even to any great extent, communicated by mosquitoes or bed bugs seems improbable when one considers the comparatively small number of persons affected in a country like India, where mosquitoes and bed bugs are practically of universal distribution, and when one contrasts the prevalence of leprosy with that of malaria, a mosquito-spread disease.

That leprosy is caused by fish-eating is a proposition that has more of the elements of probability, and when supported by the weighty authority of Mr. Hutchinson is one which demands careful consideration. This is no new doctrine in India, for it is a common belief amongst natives of that country that fish food, and especially fish eaten with milk, may bring on leprosy. The Indian Leprosy Commission of 1890–91 considered the question of fish-eating as a possible causative factor, and after examination of several hundred persons affected the commissioners put on record their opinion that there "was no doubt that the consumption of fish was not the cause of leprosy."[2] Mr. Hutchinson was not satisfied with that verdict, however, and having in 1902–03 toured India to investigate at first hand evidence for or against his hypothesis, he has stated in his book published on the subject that "he came away with an assured conviction that whilst there is in India very much which gives strong support to the fish hypothesis there is nowhere anything which controverts it."[3]

Mr. Hutchinson is inclined to refuse due weight to the statistics of the Indian Leprosy Commission and to get behind them by saying that many reasons combined to render open to doubt statements made by lepers about having eaten or not having eaten fish. He points out that the native of India is very apt to answer not according to actual fact but according to fancy or according as he thinks he is wanted to answer; and he thinks the commissioners may have been satisfied with an easy inquiry and that they may have too readily accepted answers given them. The commission report, too, he says, does not specify whether fresh fish or salted fish, fresh-water fish or sea fish, was inquired about, and he believes that confusion from misunderstandings on these points may have falsified their figures. And finally he states that since the commission report the fish hypothesis has embraced "commensal communication" as a possible additional factor in the spread of the disease. In the present inquiry the fish hypothesis has been considered with all these points in mind.

The fish hypothesis as held by Mr. Hutchinson briefly stated is that leprosy is acquired by eating bad fish, but that in some few cases persons who have never eaten fish may have acquired the disease from food contaminated by having been touched by a leper (commensal communication). Uncured, non-salted fish kept till decomposition has set in is not excluded,[4] but according to Mr. Hutchinson

---

[1] Thesis for M.D. degree, University of Glasgow.

[2] Report of the Indian Leprosy Commission, p. 334.

[3] On Leprosy and Fish Eating, by Jonathan Hutchinson, p. 122.

[4] Ibid., pp. v., 44–46.

However produced gastric ulcers heal in from 14 to 28 days provided that the health of the body is normal, and that the food, the gastric secretion, and the motor activity of the stomach are also normal. It becomes now necessary to inquire whether any conditions exist which may retard the healing of a gastric ulcer and make it become chronic. This is a subject upon which I am working at the present time, but I have already obtained a few interesting results. I first endeavoured to ascertain whether repeated injection of the gastrotoxic serum would lead to chronic ulceration of the stomach, and I found that far from this being the case the animals developed immunity to the serum. 5 cubic centimetres of the serum heated to 55° C. for half an hour were injected each week and after 10 or 12 injections the animals were protected against a lethal dose of the serum. The serum also had the power of conferring passive immunity upon another guinea-pig, so that when it was injected with a mixture of gastrotoxic serum and immune serum no lesion resulted.

In order to study the effects of abnormal local conditions upon the healing of the ulcer I have used the method of local injection into the stomach wall to produce the ulcer in the first instance. It is quite easy to inject the serum into the anterior or posterior wall or near the cardiac or pyloric orifice, and I have found that ulcers produced in these positions heal with equal rapidity in animals otherwise normal. The effects of hyperacidity of the gastric juice have been tested by feeding the animals in which ulcers had been produced with food soaked in 0·6 per cent. hydrochloric acid solution. This is a high degree of acidity and the guinea-pigs do not like it, but they will eat the food when they are hungry. I have found that on this diet the ulcers heal up quite as quickly as on a normal diet. Hydrochloric acid combined with proteid was also used and the result was the same whether the ulcer was situated in the body or at the pyloric end of the stomach.

With regard to partial neutralisation of the gastric juice I cannot say very much as the experiments are still in progress. The animals are fed on food soaked in 4 per cent. sodium bicarbonate solution. The base of the ulcer is not so clean as when the gastric juice is active and there appears to be more thickening, but I have not yet ascertained whether the healing is delayed. These results are due to the growth of bacteria in the ulcer, which normally should be inhibited by the acid gastric juice.

I will now leave this part of the subject, as my observations on the effects of motor insufficiency are too immature to record and will consider the action of the serum *in vitro.*

III.—*Analysis of the Serum in the Test-tube.*

The serum is capable of bringing about two well-defined reactions *in vitro*:—It is (1) hæmolytic, and (2) contains several precipitins.

1. *Hæmolysin.*—The normal serum of the rabbit is to some extent hæmolytic for guinea-pig's red blood corpuscles; this property is destroyed by heat and the heated serum cannot be re-activated by normal guinea-pig's serum which does not contain a suitable complement. I have been able to demonstrate that the gastrotoxin contains two distinct hæmolysins. The first hæmolysin is an increase of the normal hæmolysin of the rabbit. The increase occurs a few days after the first injection of gastric cells. The second hæmolysin is an artificial product and is distinguished from the former because after heating it can be re-activated by normal guinea-pig's complement. It appears in the blood serum at a later date and is only found in any considerable amount after a second injection of gastric cells has been administered. The hæmolysin is directly produced by absorption of the stomach cells and not of blood corpuscles, because the stomach cells are washed quite free from blood before injection.

This hæmolytic factor takes no part in the production of the gastric necrosis, because it has been already shown that the lesions are not the result of hæmorrhage, and in addition to this if the gastrotoxin be previously mixed with guinea-pig's stomach cells *in vitro* it is thereby rendered incapable of producing lesions on injection, although it can still hæmolyse blood corpuscles. I may here mention that the hæmorrhages produced by a hæmolytic serum are not due to the factor liberating the hæmoglobin from the red corpuscles, but are due to a protoplasmic poison acting upon the capillary wall, the so-called hæmorrhagin.

2. *Precipitins.*—The gastrotoxic serum possesses the property of precipitating the soluble proteid contained in a saline extract of guinea-pig's stomach cells. Such an extract is made by grinding up the cells with normal salt solution in a glass mortar and filtering through a Berkefeld filter. A clear albuminous solution is thus obtained. The addition of a few drops of this solution to the immune serum results in the formation of a well-marked precipitate, which collects at the bottom of the tube, forming a thick deposit. The serum will likewise precipitate albuminous extracts of liver and small intestine cells and the blood serum of the guinea-pig. The strongest action is, however, exerted upon the extract of stomach cells.

I have been able to show that these precipitins are multiple, as they can be separated one by one from solution and during the process of immunisation the different precipitins appear at different times in the blood serum. Removal of the precipitin for the stomach cell proteid, however, destroys the power of the serum to precipitate any other albuminous fluid. The precipitins, therefore, for the various organic extracts of the body are different, but their actions overlap to a considerable extent. Absolute specificity does not exist. These precipitins play no part in the production of the necrotic patches in the stomach, because it is well known that precipitins cause no lesion on injection, the precipitate being soluble in excess of the precipitable substance, so that any precipitate formed would be dissolved by the excess of the animals' fluids present.

3. *Gastrolysin.*—I have never observed solution of the gastric cells in the test-tube. A more or less definite hyaline change occurs in the cells, but I do not wish to lay any great stress on this point at present, because it is only very slight and I have not yet succeeded in determining its nature. I will merely here repeat what I have stated before that there is a definite poison present in the serum which attacks the cells themselves *in vivo*, and that the lesions are brought about by the interaction of an immune body and complement, and further that actual necrosis of the cell does not result, but merely a functional change rendering it susceptible to the action of the gastric juice.

IV.—*Specificity of the Gastrotoxin.*

The specificity has been tested by ascertaining (1) whether the gastrotoxin has the power of acting upon other tissues; (2) whether sera formed against other tissues can act upon gastric cells; and (3) what power various tissues possess of removing the gastrotoxin from solution by combining with it, thus rendering the serum inactive.

1. *Action of the gastrotoxin upon other tissues.*—I have already stated that the serum can hæmolyse red blood corpuscles and precipitate the albuminous extracts of other tissues in the test-tube. Although no gross lesion can be found *in vivo* apart from those of the stomach, the facts that the animal is killed and that it exhibits marked symptoms of intoxication are quite sufficient to show that the action is not limited to the stomach.

2. *Action of other sera.*—Three sera have been used—hepatotoxin, enterotoxin, and hæmolysin, formed respectively by injecting liver cells, intestine cells, and red blood corpuscles.

Each serum on injection produces gastric lesions of the same character as those produced by the gastrotoxin, but of a much less pronounced nature generally. I have been able to show that this is likewise a process of self-digestion, and that the various acids mentioned above on introduction into the stomach increase the lesions. Hepatotoxin and enterotoxin are hæmolytic in the test-tube and they contain multiple precipitins which act most powerfully on the tissues against which they are formed.

3. *Removal of the gastrotoxin by various tissues.*—The serum was exposed to the action of various cells of the guinea-pig previously to injection. Gastric cells are able to remove completely the poison and to render the serum inactive. Liver and intestinal cells can do so to some extent. If the serum is a weak one the action may be destroyed, but otherwise it is merely reduced. Red blood corpuscles are also able to some extent to remove the poison. The hæmolytic factor of the gastrotoxin can be removed from solution by liver and intestinal cells and red blood corpuscles, but gastric cells, although they render the serum inactive *in vivo*, are unable to combine with the hæmolysin and to prevent its action *in vitro*. Rabbit's tissues are absolutely unable to affect the action of the serum. It is probably the case that all the cytotoxic sera are of the same nature, and that each serum contains poisons which will attack all the cells of the body but more especially the cells

food is eaten not with spoon, fork, or knife, but with the fingers directly. If then commensal communication is to be accepted as the explanation of how the disease has been acquired in many cases where the contamination of food must have been remote and of the slightest degree, such as cases where no acquaintance with lepers existed, individuals whose food is habitually exposed to such contamination should rarely escape the disease and communication of the disease from a leprous husband to his healthy wife should be the rule.

The prisoners' histories were here useless but the Report of the Indian Leprosy Commission, pp. 308–310, gives some figures directly bearing on the point. The Commission examined 381 couples of each of which one member was a leper. All these couples had lived together for at least five years and in 25 cases only was the disease traced from one member to the other. Of these 25 the Commissioners, for reasons not stated, eliminated six, leaving the number of communications from husband to wife or *vice versâ* at 19 or 4·9 per cent. Unfortunately, the proportion in which the leper member of the couple was the husband is not stated but it may be safely assumed that this was more often the case. These figures make it impossible to accept commensal communication as the mode of infection in non-fish-eaters knowing no other lepers.

The most general present-day opinion seems to be that leprosy is contagious. The histories of the leper prisoners are not full enough to give much evidence for or against the contagiousness of leprosy. Inquiries, however, were regularly made about the existence of leprosy in relatives, associates, or acquaintances, with the results tabulated below:—

Total number of lepers.	Leprosy in family.	Leprosy in associates.	Leprosy in acquaintances.	Knew no leper out of jail.
136	39	29	14	54

The absolute accuracy of the facts denoted by these figures, of course, cannot be vouched for. It is believed that they are true so far as the prisoners themselves knew, but naturally in a disease like leprosy which may exist for some time with little or no prominent symptoms the probabilities are that in an endemic centre such as India there are persons who are lepers, though this is not known to their friends and probably not even to themselves. Granting, then, that such cases may exist and admitting for the sake of argument that, as is suggested by Dr. R. Sinclair Black in his paper in THE LANCET of April 28th, 1906 (p. 1167), these cases may be "sources of infection," the error resulting from their omission is certain to be much smaller than the error in the other direction resulting from the fact that between prisoners on the one hand and relatives, associates, and acquaintances on the other it was impossible to determine priority of infection.

To return to the figures, out of 136 lepers 68 had leper relatives or associates, 14 knew a leper or lepers of other castes, and 54 knew no other leper. At a first glance this looks like a strong support of the contagiousness of the disease; the 54 who knew no other leper are apt to be lost sight of in the 68 who had some history of association with lepers. But this 68 really proves little. To support the theory that the disease is contagious what is wanted is the number of persons who have associated with lepers and of these the number who have acquired the disease. Such an inquiry was beyond the scope of this thesis.

The doctrine of the contagionists as enunciated by Professor Neisser at the International Congress on Dermatology, 1904,[8] is that the "disease is contagious and spread exclusively by lepers." A certain proportion of cases occur in individuals who have associated with other persons affected and extension by contagion might explain these; while cases, like the often-quoted one reported by Dr. Benson in the *Dublin Journal of Medical Science* for 1877,[9] seem to admit of no other explanation than that the disease spread by contagion to a healthy person from a leper. But the exact mode of diffusion remains undetermined, though in all such cases a long and intimate association seems necessary.

A certain other proportion of the cases of leprosy, however, arises where inquiries fail to trace a pre-existing case of the disease from which contagion could have been acquired. Of 136 lepers in Rai Bareli jail 54 it was shown were in this group. If the theory of the contagionists be accepted it must be presumed that such cases of leprosy acquired the disease during some chance unknown, and therefore in most cases at least during slight and fleeting association with a leper, unlike the long and intimate intercourse which seems to have been necessary in cases where the spread by contagion has been most clearly established. If such a presumption is passed it must be admitted that leprosy, at times, at least, is bound to be a very easily communicable malady. But all the known facts of the case are in conflict with this, and it is inconceivable that a very easily communicable disease which is very rarely cured, to restrict which practically no measures of segregation are practised, and of the sufferers from which very few have recourse to treatment, should show, as does leprosy, a steady decrease amongst the general population.[10] Again, occasional cases of leprosy reach Britain from countries where the disease is comparatively common but no danger is apprehended that these cases will act as foci for the extension of the disease in this country. Leprosy cannot be looked on as at all easily communicable and cases like the 54 above still await explanation.

One more point in this connexion is of the number of persons in intimate association with lepers the small proportion which actually acquires the disease. The Indian Leprosy Commission[11] investigated 104 cases of individuals who had long associated with lepers and of these only one, or possibly two, had acquired the disease. The records of the Rai Bareli jail give similar evidence. No warder in the institution has become infected. A dresser has worked amongst the lepers for nine years dressing sores daily, and although till recently he exercised no special precautions this man has not contracted the disease. And several cases are on record of prisoners admitted to the leper jail as doubtful lepers or under wrong diagnosis who remained in the leper block for long periods and who, finally, were transferred without having acquired the disease.

These facts do not negative contagion as a factor in the spread of the disease but they indicate that if the disease is a contagious one in addition to the actual contagium itself other conditions of not less importance are requisite before the contagium can act. What these conditions are remain undetermined. In the present state of our knowledge comparison with tuberculosis seems to provide the clearest conception of the method of diffusion of leprosy. In both diseases there seem to be well established examples of extension by direct contagion, in both in addition to the actual presence of the contagium vivum other conditions seem requisite before the disease can develop, and in both a certain number of cases arise so completely independently of other cases that the only satisfactory explanation which presents itself is a more or less general distribution of the respective bacilli (of the bacillus lepræ probably only in endemic areas) which remain capable, given the necessary conditions, of giving rise to the disease.

PART II.—SYMPTOMS.

Two distinct forms of the disease have been recognised, the maculo-anæsthetic and the nodular, and well-marked cases of these offer a striking contrast in appearance. But many lepers present the symptoms of both of these cardinal types, and therefore a grouping into three classes, maculo-anæsthetic, nodular, and mixed, has been made. This is the usual classification. Hansen, however, adopts two groups only, including in the nodular all mixed cases. The maculo-anæsthetic type is the less acute form of the disease and a noteworthy feature of the cases in Rai Bareli jail was the comparatively large number of the maculo-anæsthetic type.

---

[8] THE LANCET, Nov. 19th, 1904, p. 1453.

[9] A man whose brother came home from abroad a leper acquired the disease after having lived with the brother one and a half years and after the brother's death wore his clothes.

[10] The following table is taken from the Census Report of the United Provinces for 1906:—

Census year.	Leprosy totals.	Number per 10,000.	
		Males.	Females.
1881	17,822	6·30	1·59
1891	16,895	5·74	1·30
1901	11,328	3·59	1·08

[11] Indian Leprosy Commission Report, p. 321.

badly cured fish is the chief cause of the disease.[5] The evidence for or against uncured fish, cured fish, and contaminated food as causes of the disease will be taken up separately. In the inquiry on these points the following method was adopted. On admission to the jail the lepers were examined by me personally. When each man was questioned about having eaten fish it was made clear to him that the inquiry referred to fish of any kind eaten at any time and not only to the habitual use of fish as an article of diet. Each man, moreover, was examined apart from the other prisoners. The facts thus elicited were recorded in each man's history and it is worthy of note that a subsequent inquiry made to check these original entries detected only one discrepancy. This subsequent inquiry was conducted towards the end of my term as superintendent and was completed on one afternoon. No previous intimation of it was given to anyone, warder or prisoner. Each leper in the jail on that particular day—the total was 63—was taken apart from the others and questioned on the subject of fish-eating with the same care as has been noted above. No one knew beforehand the purpose for which he was taken out of sight and earshot of the other prisoners, and having been questioned no prisoner was allowed to return or communicate with those waiting for examination. The only man whose second statement did not agree with that made on admission was a Brahman who on admission said he might have eaten fish as a child and at the second inquiry said he had never eaten fish.

The examination of the prisoners brought out the fact that fish was extensively used as an article of diet throughout the United Provinces, but that the fish eaten was fresh fish. This is easily procurable at most places from river or tank at some season of the year and apparently is a common article of diet with all castes except Brahmans and Bannias. Of 128 leper prisoners examined in Rai Bareli jail 34 (or 26·60 per cent.) denied having eaten fish at any time. As a means of comparison a series of 128 consecutive prisoners of the ordinary jail—i.e., non-lepers—were questioned on the point with the same precautions as had been exercised with the lepers, and of these 35 (or 26·66 per cent.) denied ever having eaten fish. The proportions of fish-eaters among lepers and non-lepers therefore were practically the same.

With a view to comparing lepers and non-lepers as far as fish-eating goes another plan was adopted. Amongst Hindus the two castes whose tenets most strictly enjoin vegetarianism are Brahmans and Bannias. Mr. Hutchinson would doubt the veracity of a Brahman or a Bannia who asserted that he had never eaten fish; but there can be no doubt about it that it is distinctly exceptional to find in the United Provinces a man of either of those castes who is not a strict vegetarian. If fish-eating then is the cause of leprosy one would expect that the proportion of Brahmans and Bannias amongst lepers would be less than the proportion of those castes amongst the general population; and similarly that the proportion of Brahman and Bannia leper prisoners to the total leper prisoners would be less than the proportion of Brahman and Bannia non-leper prisoners to the total non-leper prisoners of the ordinary jail.

The admissions to the jail for the period April 26th, 1905, to the end of November, 1906, were scrutinised and it was found that this difference did not exist. In 84 lepers admitted there were 11 Brahmans and Bannias (or 13·10 per cent.), whereas in 1234 non-leper admissions Brahmans and Bannias totalled 164 (or 13·29 per cent.). The difference is nominal. The figures of the 1901 Census of the United Provinces give still more convincing evidence of this kind, and a few extracted from p. 206 of the Census Report are here given.

Lepers per 10,000.

	Males.		Females.
General population	3·59	....	1·08
Brahmans	4·05	....	1·16
Bannias	3·41	....	0 95
Châmars (a very low caste who eat anything)	2·89	....	0 93

"The highest caste in the Hindus—viz., the Brahmans—shows a larger proportion than any of the others."[6]

The available evidence, then, as derived from the above facts is against the hypothesis that leprosy in India is caused by eating uncured fish.

If facts observed in the United Provinces militate against the doctrine that the eating of bad fish not cured or dried is the cause of leprosy, much more so do they militate against the doctrine that eating badly cured fish may cause the disease. For some time no evidence could be obtained of the use in the United Provinces of anything in the nature of cured or dried fish at all. Prisoners and jail staffs, the latter educated Indians, except a few men who had visited Calcutta or Bombay, did not know of such an article of diet. Towards the end of the period of inquiry, however, it was found that certain prawns (jhinga), generally eaten fresh, were occasionally sun-dried and thus preserved for a few months. For the purpose of this inquiry these dried prawns were taken as cured fish. Even they, however, are very little used and many persons had never heard of them being preserved by drying. Inquiries were made from many educated Indians of all classes, and no other article of diet coming into the category of dried or salted fish could be discovered to be used in the United Provinces—excepting, of course, tinned fish imported for, and exclusively used by, Europeans. When the facts about the prawns were learned all the lepers then in the jail, 61 in number, were again carefully questioned, and this time direct questions were made about dried prawns. Of the 61 lepers 48 had never eaten cured prawns and 13 had eaten them at some time or other, most of these very occasionally, and as a rule only once or twice in their lives.

In getting at these figures the same precautions were adopted as have been noted above, and, moreover, of the 48 who had never eaten the dried prawns many readily admitted having eaten fresh fish. The figures are believed to be accurate. To compare lepers and non-lepers on this point, 61 consecutive non-leper prisoners of the ordinary jail were similarly questioned; of these, 11 admitted having at some time or other eaten dried prawns, while 50 had never tasted them. The difference is on the side of the hypothesis: but in view of the proportion of the lepers who had never eaten the dried crustacean it may be neglected, and it can be confidently asserted that there is no evidence in favour of the idea that the eating of bad preserved prawns is the cause of leprosy. It might be said that those who had never eaten prawns had acquired the disease by eating bad uncured fish and *vice versâ*. This possibility was examined. Of the 49 lepers who had never eaten cured prawns 13 had also never eaten fish and all the non-fish-eaters were also men who had never eaten prawns of any kind, fresh or cured. The general conclusion then from these facts is that in the United Provinces of Agra and Oudh no circumstantial evidence has been discovered supporting the hypothesis that leprosy as met with in that part of India is due to the eating of bad fish cured or uncured.

To explain cases where fish-eating cannot possibly have been the cause the fish hypothesis has lately embraced "commensal communication"—communication of the disease from a leper to a healthy person by that person eating food touched by the leper. This, which is really a restricted form of contagion, will now be considered in view of the histories given by the Rai Bareli lepers. The proportion of the leper prisoners in which there was no history of fish-eating, given above as 26·60 per cent., may be taken as at least approximately accurate. That such a large percentage acquired the disease through eating food contaminated by contact with a leper apparently even Mr. Hutchinson would think improbable.[7] The actual number of lepers believed never to have eaten fish was 34 and to 16 of these leper prisoners no other leper was known before admission to the jail. An hypothesis which declares the disease not contagious but which requires that out of 128 persons affected 16 acquired the disease by eating food in some way contaminated by a leper though no leper whatever was known to them and though the proportion of population affected is less than 3 per 10,000 cannot be said to be well substantiated.

But even more fatal to the idea of commensal communication than these figures is the infrequency of the communication from husband to wife. In India husbands and wives do not eat together. In rich, well-appointed households the husbands have their food cooked apart from that of their wives and eat it apart; but in poorer households the husbands eat first and after them from the same vessels the wives eat what is left. This latter arrangement holds in by far the majority of cases. Moreover, in India by all classes breaking down and ulcerating. This man's face and body while this process was going on resembled those of a person suffering from small-pox. He was released after the condition had passed its worst and with good general health.

---

[5] Ibid. pp. 45 and 49.

[6] Report of 1901 Census of the United Provinces of India, p. 203.

[7] Hutchinson: Leprosy and Fish-eating, p. 193.

PART III.—TREATMENT.

In the jail all lepers were brought under excellent hygienic conditions. Good food, suitable clothing, enforced cleanliness, abundance of fresh air, and appropriate light labour were the lot of all. Sores and ulcers were kept clean and any little surgical measure deemed necessary was done. In addition to these general measures medicinal treatment of some kind was practised with most of the prisoners. The medicines tried were chaulmoogra oil, gurjun oil, salol, and salicylic acid ointment, each in selected groups. The conclusion come to was that none of these remedies was followed by any special benefit, and towards the end of the period of observation their use was abandoned for a simple symptomatic line of treatment. In December, 1906, and January, 1907, a trial was made of subcutaneous injections of 30 per cent. emulsions of iodoform in olive oil by which a German colonial officer, Dr. Diesing, was reported to have had success. Injections of four cubic centimetres of this emulsion were given to six selected cases. After 12 injections the practice was suspended to await results. No influence on the disease was detected up to the end of February, 1907. During the period of observation nine lepers died and 94 were released—22 with the symptoms alleviated, 21 with the symptoms more pronounced, and 51 practically in the same condition as on admission. In two of these which improved no symptoms could be found of the disease at all at release. In the majority of the cases it was recorded that the general health had improved during the stay in jail, this being not infrequently noted even in cases in which the special symptoms of leprosy seemed to have increased. Of the 94 released, 63 had gained in weight (average gain 9·46 pounds), 30 had lost weight (average loss 6·43 pounds), and six showed no change. The average duration of confinement of the 94 was 12·41 months. Of the nine cases who died only one was a maculo-anæsthetic leper. He was stated to have had the disease for 16½ years and had been in the leper jail for 13½ years. The others were mixed cases. The cause of death in all was some intercurrent affection—diarrhœa in six, tubercle of lungs in two, and gangrene in one. In all the leprosy was of many years' duration[18] and the prisoner was markedly debilitated by it.

AORTIC ANEURYSMS; SUDDEN DEATHS; THE CAPACITY OF THE PERICARDIUM.

BY HERBERT A. SMITH, M.D. DURH., M.R.C.S. ENG., L.R.C.P. EDIN.

> "I say that aneurysm is cured by rest and not by the surgeon!"—
> *John Hilton.*

THE mystery of sudden death commands interest, clinical, physiological, and forensic, and the last especially—the chemical, toxic, and traumatic causes—have a wide range of uncertainty, for the objective appearances of death do not always correspond with the classical modes thereof as given by Bichât, and with pathological causes there is often doubt. It is said by Virchow[1] "to be almost absolutely certain that the two most important kinds of death, asphyxia and paralysis, occur from overfilling of the right and left ventricles of the heart," yet in the following case both these cavities were found empty. Vivian Poore[2] says that sudden death obtains (1) by failure of blood, as in hæmorrhage, rupture of aneurysms, &c.; (2) failure of heart action through systemic, valvular, or thrombotic causes; and (3) failure of respiration through central or peripheral causes, that when the lungs cease first you get cyanosis and engorgement of the right heart and systemic veins, and when the circulation stops first you get pallor from a nearly empty left heart.

CASE 1.—On March 5th, 1908, I was summoned to a man in a fit. On arrival two minutes later he was dead; he had been pruning roses and suddenly feeling faint and giddy he fell to the ground. I found marked cyanosis, blueness of the lips and cheeks, and a congested venous state of the neck. The mouth was open, showing a protruding tongue, a condition suggesting some pressure on the venous return. Did the lungs cease before the heart? On making a necropsy (before an inquest) I found, after removing the front of the sternum and ribs to the subclavicular line, a distended viscus ready to burst; it was the pericardium pressing the diaphragm downwards and occupying a wide pulmonary area; on opening it 14 ounces of serum were baled out and then five ounces of soft black blood clot. The chambers of the heart, save a long thin clot in the right auricle, were empty and the valves were intact and competent, but an aneurysm of the ascending aorta (saccular) of the size of a walnut was found, the seat of rupture having a stellate appearance. The inner coat was stretched and torn and the other coats were soft, fatty, and friable. The intima right down to the thoracic aorta was riddled with areas of atheroma and calcareous plates and granules. There was no illness, no complaint, no lapse of work; yet the disease proceeded without let in a man of fine physique. It is said by Broadbent that "the favourite site of an aneurysm to rupture is through the unsupported sinuses of Valsalva," the intrapericardial portion of the ascending aorta, and that sudden death may occur without previous physical signs.[3] The lining of the pericardium common to the aorta and pulmonary artery in a single tube favours early rupture of the aneurysmal sac, yet with the atheromatous changes, the fact that no symptom is felt, no sign complained of, is noteworthy.

Some years ago a woman was admitted into the Middlesex Hospital for obscure pains in the chest and stabbing sensations, and gradually advancing pallor, faintness, and giddiness led to death. A post-mortem examination was made, and as the heart was taken out the pathologist pricked his finger by a needle which had traversed the œsophagus, trachea, pericardium, and the ascending aorta through a sinus of Valsalva, and the point of which was in the pericardium. Some 10 ounces of blood were found; trickling of blood alongside the needle had led to rupture and fatal flow.

Men live on the brink of a precipice. The cone of the fatal clot, the flimsy film, the flaw within the tube, and the fragile vessel or sac gives way without a signal.

CASE 2.—A city merchant whose life had been one of constant activity and excitement was under my care for aneurysm of the arch of the aorta for 11 years. During this time he presented most of the cardinal features of the disease and the saccular tumour grew to the size of a pear, eroding the sternum and extending the skin into a cone, yet strengthened by newly organised tissue. He kept his bed at first on and off for three months at a time for two years and took as much as two pounds of iodide of potassium with little fluid. He afterwards went daily to business, smoked two or three cigars, and enjoyed life. At 55 years of age he went for a winter cruise in the Mediterranean and coming home died somewhat suddenly from acute double pneumonia. The aneurysm had compressed behind the pulmonary artery and bronchial tubes and laterally had led to pulmonary condensation and absorption, thus favouring pneumonia.

CASE 3.—A few years ago I was summoned in the early morning to see a man, aged 56 years, who had fallen to the floor while entering a bath. I found him dead. There was marked pallor of the upper, and cyanosis of the lower, half of the face. A post-mortem examination elicited a thoracic aneurysm of the size of a tennis-ball which had absorbed a corresponding portion of lung and had ruptured into the posterior left mediastinum; it was saccular, occupying the costo-vertebral trough over the eighth and ninth ribs. The arterial opening was small and the site was favourable for support and for that side-flow or oblique eddy that favours coagulation. The right ventricle contained much blood clot. The sac wall was brittle, laminated, and lined with old and organising clot. Three months before Dr. T. T. Whipham had seen the case for backache, dyspnœa, and pleurodynia and had merely suspected an aneurysm, which had grown with great rapidity.

The early diagnosis of aneurysm by the x rays becomes important. Dr. David Arthur tells me that by its means aneurysms can be diagnosed from the merest budding to the point of rupture and that the time of giving way can be predicted with nicety outside the body. Moreover, by Hotznecht's process—the anterior right oblique position—the smallest aneurysm can be seen and shadowed, but the rate of

---

[18] Duration of disease not known in one case. Average duration of remaining eight cases was 10·94 years.

[1] Virchow: Post-mortems, p. 35.

[2] G. V. Poore: Medical Jurisprudence, p. 50.

[3] Broadbent: Heart Disease, p. 443.

In 149 lepers there were 85 of this class, 11 nodular and 53 mixed, equivalent to a percentage proportion of—

Maculo-anæsthetic.	Nodular.	Mixed.
57·05	7·38	35·57

These proportions are very similar to those given by the Indian Leprosy Commission for India,[12] namely:—

Maculo-anæsthetic.	Nodular.	Mixed.
56·6	12·2	31

and they approximate to the percentage given by Hollis[13] for 188 cases in British Guiana, viz.:—

Maculo-anæsthetic.	Nodular.	Mixed.
54·80	18·08	27·12

They differ markedly, however, from Hansen's figures for Norway, which work out at practically—

Maculo-anæsthetic.	Nodular and mixed.
32	68

No explanation is vouchsafed for this difference. In Norway itself Hansen notes that dry inland regions show a greater number of maculo-anæsthetic cases than do most sea-coast districts.[14] The United Provinces of India is a very dry inland country.

The great majority of the cases in the jail were mild and visitors to the leper block were invariably surprised at the appearance of well-being of the lepers. Of these admitted after April 25th, 1905, only five were recorded as "bad cases," and a frequently recurring note in the records was, "Seems a man in good health but for maculæ." Hansen gives it as his opinion that "the natural termination of every case of nodular leprosy is to pass into the anæsthetic form if only, as occasionally happens, the patient live long enough."[15] The period during which the leper prisoners remained under observation was for the purpose of noting the development of such a chronic disease as leprosy very short, but with that proviso it falls to be recorded that while no case of nodular leprosy was noted to have passed into the maculo-anæsthetic form two cases were observed which, maculo-anæsthetic when first seen, developed nodules during the period they remained under observation. The records of the leper jail show frequent examples of this, but no instance of the opposite change. Further evidence of this development of maculo-anæsthetic into nodular or mixed leprosy seems to be presented by the not uncommon condition found in mixed cases—nodular infiltration slight and described by the sufferers as recent, together with contractures and deformities of limbs manifesting a maculo-anæsthetic infection of long standing.

In no case could a history of prodromal symptoms be elicited. However, to get from a native of India a history of the onset of the most acute disease is often a matter of the greatest difficulty, and little stress, therefore, can be put on the absence of prodromal symptoms in the history of a chronic disease like leprosy. The usual type of maculæ in those cases which presented this symptom was a patch of pale skin, not raised, more or less irregular in outline, and as a rule with a distinct margin passing directly without inflamed or hyper-pigmented border into normal skin. Out of 83 cases admitted about whom detailed notes were made 38 presented maculæ of this sort. In a few cases (five) the maculæ were of this pale kind but with a slightly reddened or inflamed margin, though there was no complaint of pain; and in a few others (four) the pale maculæ had a hyper-pigmented border. Two had a slightly raised scaly margin. Hyper-pigmented maculæ were noted in 11 cases; in seven of these the ordinary pale maculæ were also present. One of the 11 had a hyper-pigmented patch with a pale border. The size of the maculæ varied from that of a pea to tracts many square inches in extent; and the number from one or two patches to an affection so abundant that more skin was unhealthy than healthy. A few cases were seen where the skin might have been described as mottled. The parts of the body most affected were the back, chest, abdomen, buttocks, thighs, and upper arms. In one case the sole of one foot was distinctly affected. The distribution was frequently roughly symmetrical. It did not correspond at all with nerve distribution. In only two maculo-anæsthetic lepers was erythema noted, affecting in one the palm of one hand and in the other the abdominal wall and palms. Erythema was more often seen in nodular or mixed cases (one nodular and seven mixed) and generally marked a fairly acute infection. A thin glossy atrophic condition of the skin, generally of the extremities or back, was observed in 20 of the cases admitted, six of whom were maculo-anæsthetic, 12 mixed, and two nodular. A dry scaly condition of the skin was less often noted—in 11 cases, all maculo-anæsthetic or mixed. Atrophy of muscles (of the palms most frequently and next of the soles and then of the limbs generally) was one of the most common features of the disease (40 cases admitted), and almost as frequent were deformities of limbs from mutilation or contracture (34 admitted). Disturbance of perspiration was noted unequivocably only in one case. The man had distinct, well-defined, pale maculæ all over his chest, and these at the time of examination (during the rainy season) were absolutely dry, markedly contrasting with the healthy skin which was beaded with persiration.

The distribution of the anæsthesia found in the Rai Bareli lepers was not what was expected from a study of text-books. In a few cases some of the maculæ were anæsthetic, but maculæ which were anæsthetic or hyperæsthetic were the exception and the maculo-anæsthetic lepers examined conformed, with few exceptions, to one type, in which anæsthesia had no relation to the maculæ, seldom occurred in patches, and was, as a rule, confined to the distal parts of the extremities. Special attention was paid to the sensory condition of the maculæ. It has been said above that the usual type of macula was the pale patch of skin. At first it was thought that these pale patches were old maculæ and that earlier in their history they had been red or pigmented or scaly. No confirmation of this, however, could be obtained from the patients themselves; once or twice pale maculæ were noted to have increased in size during the prisoner's residence in jail, showing that some at least were recent; and finally when the distribution of anæsthesia came to be considered it was clear that the maculæ of the Indian leper differed from maculæ as described by Hansen, according to whom "pigmentation of the periphery and pallor of the centre indicate that the patch is already old and the pallid centre is always anæsthetic."[16]

The common opinion is that the anæsthesia of the maculæ, when it occurs, is due to the local action of the bacilli or their toxins on the nerve terminations or fibrils, while that of the distal parts of the extremities is due to changes in the nerve trunks. Looking at the charts depicting the areas of anæsthesia one finds it difficult to understand this: were the nerve trunks the seat of the mischief in this latter case, one would expect the anæsthesia to be more irregularly outlined, to extend up the limb to different extents in the areas supplied by different sensory nerves and not to terminate in the regular way it does often in an almost circular line round the limb. The distribution of the anæsthesia of the limbs seen in the Rai Bareli cases is more easily understood on the supposition that the nerve terminations or terminal fibrils in the limbs as in the maculæ are the parts of the nervous system affected.[17]

The symptoms peculiar to nodular leprosy varied little from those given in the text-books. It is worthy of note, however, that in addition to the sites usually affected as described therein nodules were found in two cases on the glans penis, once on the palm, and once on the sole. All these were confirmed by the presence of abundant bacilli lepræ in smears from and in sections of the nodules made after their excision. In two cases unequivocal massive lepromata were found—i.e., infiltration in plaques instead of in discrete nodules. The parts affected were in one case the hips, lower limbs, and scrotum; in the other one upper arm and the back of both elbows. The nose, eyes, and mouth were examined in a routine way in all lepers. In the nose ulcers were found in 18 cases, only one of which was a maculo-anæsthetic leper. Smears from these ulcers showed leprosy bacilli in 11 cases, one of which was the maculo-anæsthetic. In the mouth in three cases nodules were found on the hard palate and in one case on the soft palate. Two prisoners were found with ulcers of the palate of leprous origin. In only one leper was the disease found affecting the eye. A nodule formed in the lower quadrant of one cornea, penetrated to the iris, and set up iritis. The prisoner was released at this stage. Five prisoners were noted to have affections of the larynx. Only one example occurred in the jail of nodules

---

[12] Ibid., p. 15.

[13] Vide Leprosy, by G. Thin, M.D., p. 115.

[14] Leprosy, by Hansen and Looft, translated by N. Walker, p. 144.

[15] Ibid., p. 3.

[16] Hansen and Looft, translated by Walker, p. 55.

[17] By anæsthesia is meant loss of sensibility to light touch as tested by cotton-wool.

THE OPERATIVE SURGERY OF LABYRINTHITIS.[1]

By C. ERNEST WEST, F.R.C.S. ENG.,
ASSISTANT AURAL SURGEON, ST. BARTHOLOMEW'S HOSPITAL;
AND
SYDNEY SCOTT, M.S. LOND., F.R.C.S. ENG.,
CHIEF ASSISTANT, AURAL DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL, AND AURAL SURGEON, EVELINA HOSPITAL FOR SICK CHILDREN.

THE beginning of deliberate and planned operations on the auditory labyrinth for the relief of infective processes within it may be traced to the publication by Jansen of his classical cases at the Moscow Medical Congress in 1897. In 1902 much addition to our knowledge of the subject was made by Hinsberg, and following this Dr. W. Milligan and Mr. A. L. Whitehead drew attention to the subject in this country. Since this date the literature has been enriched by numerous authors and many isolated cases of the surgical treatment of labyrinthine disease have been published. We have ourselves been keenly interested in the subject for the past four years and have at various times separately published accounts of individual cases. Feeling that of late a recognition of the importance of the subject was increasing we have embodied in this paper our personal experience of 30 cases and a result of a study of it.

Surgical anatomy of the labyrinth.—An accurate knowledge of the structure and relations of the labyrinth is essential to its successful surgery. Upon such knowledge depend the recognition of the morbid processes which affect it and the ability to interpret the clinical phenomena peculiar to its diseases. Moreover, by anatomical structure and relationship the occurrence of fatal complications associated with labyrinthitis can be explained. In this summary we shall merely describe some of the main anatomical features of the labyrinth and would refer those especially interested to the more detailed description of the surgical anatomy of the labyrinth in our original paper.[2] It is convenient surgically to regard the human labyrinth as consisting of two main parts, each fulfilling through the membranous structures it contains the functions of a special sense organ —the cochlea, the essential organ of hearing, the vestibule, and the semicircular canals which contain the end-organs of static sensation. The labyrinth as a whole lies within the petrous portion of the temporal bone and is thus situated on the inner side of the middle ear, with the temporo-sphenoidal lobe of the cerebrum and the meninges of the middle cranial fossa immediately above and the cerebellum, with the meninges of the posterior cranial fossa, immediately behind. The internal carotid artery lies directly in front of, and below, the cochlea. The bulb of the internal jugular vein lies directly below the vestibule and the posterior semicircular canal. On the inner side of the labyrinth lies the fundus of the internal auditory meatus, containing the seventh and eighth cranial nerves, with their meningeal prolongations. The seventh or facial nerve also crosses the labyrinth, lying first above and then to its outer side.

The vestibule is an ovoidal chamber communicating with the cochlea in front and with the semicircular canals which lie behind. The measurements of the vestibule are: antero-posteriorly about 6 millimetres, vertically 4 to 5 millimetres, and transversely 3 millimetres. In its roof, posterior wall, and floor are the openings for the semicircular canals, while externally and in front the vestibule leads downwards and forwards into the first turn of the cochlea. The outer wall of the vestibule corresponds with the following portions of the inner wall of the middle ear, in order from above downwards: the tympanic part of the aqueduct of Fallopius containing the facial nerve, the pelvis ovalis lodging the stapes, and the upper part of the fossula rotunda. This fossula is sharply separated from the pelvis ovalis by a stout ridge of bone prolonged backwards from the promontory. Behind the fossula rotunda is a recess, the sinus tympanicus, passing upwards and backwards to the inner side of the Fallopian aqueduct. This sinus is often separated by quite thin bone from the floor of the vestibule and from the ampulla of the posterior semicircular canal, a point of clinical importance. The inner wall of the vestibule is separated anteriorly from the fundus of the internal auditory meatus and from the arachnoid sheath of the seventh and eighth nerves by excessively thin bone pierced by numerous nerve filaments. The importance of this intimate relation of the vestibule to the intracranial cavity and to the meninges of the posterior cranial fossa and base of the brain we cannot too strongly emphasise. The cochlea consists of a spirally coiled canal which takes the form of a depressed cone. The first half-turn of the cochlea leads from the vestibule and forms the promontory on the inner wall of the tympanum. The body of the cochlea lies further forwards and inwards, above the internal carotid artery, and based upon the fundus of the internal auditory meatus. The three semicircular canals open into the vestibule. They lie in planes which are at right angles to each other, the external canal being approximately horizontal, while the superior and posterior canals are approximately vertical. We have satisfied ourselves that the planes of the semicircular canals on opposite sides of the head in no instance exactly coincide. The proximity of the ampullæ of the three canals to the middle ear is important, the superior and external ampullæ lying close to the inner wall of the attic and aditus, while that of the posterior canal is close to the sinus tympanicus.

Guides to the vestibule.—One of the most important guides to the vestibule is the outer crus of the external semicircular canal, a part which is liable to invasion by disease. This canal forms a conspicuous eminence on the inner wall of the aditus and antrum; it should invariably be carefully inspected. Its ampulla lies in front of the eminence and immediately above the facial nerve. On following an opening in the external canal forwards and slightly upwards the ampulla is easily found, close to its opening into the vestibule. A second guide to the vestibule is the pelvis ovalis below the Fallopian aqueduct. This is generally only imperfectly visible from the mastoid aspect during the radical operation on the middle ear, but can be seen when looked for along the external auditory meatus.

The course of the facial nerve in relation to the labyrinth and middle-ear.—The facial nerve leaves the fundus of the internal auditory meatus through its upper and anterior quadrant; its subsequent course may be divided into three parts. The first passes outwards and slightly forwards and measures one-eighth of an inch. It terminates in a chamber lodging the geniculate ganglion. The second part passes from this ganglion backwards and downwards at right angles to the first. Its course is straight and is inclined about 15° to the horizontal: it measures nearly half an inch. Of this the middle quarter inch of the aqueduct is visible in the tympanum, exposed on its outer and lower surfaces. The lower wall of this part of the canal is often incomplete. Below it is the pelvis ovalis. Above are situated the ampullæ of the external and superior semicircular canals; to its inner side is the vestibule. The last eighth of an inch of the second part of the facial nerve is buried in the posterior tympanic wall and lies above and behind the flask-shaped chamber of the stapedius muscle. The third part of the nerve is about half an inch long and passes downwards and a little outwards and backwards at an angle of 120° with the second part, emerging at the base of the skull, through the stylo-mastoid foramen. The third part of the nerve is in relation with the deepest part of the posterior meatal wall.

Morbid anatomy and pathology.—The inflammatory processes within the labyrinth of which we have had experience originated in all cases within the middle ear. The entrance of infection was nearly always by definite tracts which could be recognised during operation, in other words, by perforation of some part of the outer labyrinthine wall. The most frequent and important site of perforation was the external semicircular canal as it lies in the inner wall of the aditus. Here entrance took place 14 times out of a total of 30 cases. Various parts of the inner tympanic wall were perforated less frequently, a defect of the footplate of the stapes being found in six cases, of the promontory in five, while in one perforation took place into the vestibule through the fossula rotunda. In three cases of undoubted labyrinthitis we were unable to discover the point of entrance. In almost all of our cases the antecedent otitis media has been chronic at the period of observation and there is no doubt that chronic suppurations bring about the majority of infections of the labyrinth. It is possible, however, that in some cases invasion of the labyrinth may have taken place during the acute stage of the otitis antecedent to the period of observation. Cholesteatoma was associated with perforations of growth hereby has yet to be determined. In a skiagram taken by Dr. D. Arthur but not published of Dr. Seymour Taylor's case[4] the space intervening between the heart and pericardium in the advance and retreat of the heart's action is clearly seen.

---

[1] Based upon a paper read before the Otological Section of the Royal Society of Medicine on March 7th, 1908.

[2] The original paper is published in full, accompanied by a bibliography, in the April number of the Proceedings of the Royal Society of Medicine, with illustrations.

The normal amount of pericardial serum is that of lubrication. The pathological stretch of capacity of the pericardium, according to G. A. Gibson,[5] has reached eight pints of serum (cardiac). According to Jackson Clarke,[6] sufficient pus has been found in this viscus to mask the whole anterior pulmonary area of resonance, yet 18 ounces of blood sufficed in my case to render the pericardium taut. Such is the elasticity and capacity of the pericardium.

In spite of Dr. Taylor's strictures, my treatment of aneurysm medically would be rest (relaxed periodically), limited fluid, as much iodide of potassium and lactate of calcium as the patient could bear, and a prolonged stay at Woodhall, Sandrock, or Malvern—calm retreats whose spa waters are more or less rich in iodine, bromine, alum, and iron.

West Acton, W.

THE PRECIPITIN REACTION IN HYDATID DISEASE.

By D. A. WELSH, M.A., B.Sc., M.D. Edin.,
PROFESSOR OF PATHOLOGY IN THE UNIVERSITY OF SYDNEY, NEW SOUTH WALES;

AND

H. G. CHAPMAN, M.D., B.S. Melb.,
DEMONSTRATOR IN PHYSIOLOGY IN THE UNIVERSITY OF SYDNEY, NEW SOUTH WALES.

IN July, 1907, Fleig and Lisbonne[1] announced that they had succeeded in demonstrating the existence of a specific precipitin in the blood serum of an individual affected with a hydatid cyst and in the serum of animals immunised with hydatid products. They also emphasised the diagnostic significance of the reaction. Previous work[2] by Ghedini, by Joest, and by Gherardini had yielded contradictory results. With the more abundant material at our disposal we have been able to corroborate and to supplement the main observations of Fleig and Lisbonne in regard to hydatid invasions in the human subject. We have found that when a sufficiency of blood serum is mixed with a suitable hydatid fluid and the mixture allowed to stand for 18–20 hours at the room temperature, a well-marked precipitate never fails to appear if the serum be taken from a patient infected with hydatids (nine cases), and that precipitation does not occur when the serum is taken from persons not so infected (four suspected cases and five healthy controls). In the four suspected cases examined by us a negative reaction was obtained, and at operation in each case the absence of hydatid invasion was revealed. These results are so consistent, though as yet few in number, that they encourage us in the belief that in the precipitin test for hydatid invasion we have a reliable means of diagnosis. We find, however, that certain conditions are essential to the satisfactory performance of the test.

In regard to the serum (antiserum) developed in a hydatid patient, our experience has been that, with few exceptions, it is characterised by a low precipitable content. Hence, as noted by Fleig and Lisbonne, about 12 drops of the patient's serum are usually required to yield a satisfactory amount of deposit. In a previous paper[3] dealing with precipitin antisera prepared in the rabbit by injections of alien blood serum or of egg-white, we noted that two drops (0·1 cubic centimetre) of the antiserum were usually sufficient to yield a well-marked precipitate. We were also led to the conclusions that the precipitate was derived mainly from the antiserum and that different antisera might differ greatly in their precipitable content.

Fleig and Lisbonne observed that the anti-substances in the serum of a hydatid patient may gradually disappear after operation. That this disappearance of the precipitin is not necessarily associated with removal of all the cysts is shown by one of our cases. In a man, aged 42 years, with multiple hydatid cysts of the liver (not all of which could be removed at operation) we found a well-marked reaction before operation, but at the end of the sixth week and again at the end of the seventh week after operation the serum yielded only a minute trace of deposit. The patient died in the eighth week after operation, having become rapidly weaker and more emaciated, and it may be that in these circumstances his capacity for reaction was failing. On the other hand, a girl, 14 years old, with multiple hydatids of the peritoneum following a ruptured hydatid of the liver gave a well-marked reaction eight weeks after operation. She was well nourished and was leaving the hospital apparently cured. The indication, however, was that she was still infected with hydatids and that the tissues were reacting to their presence.

In regard to the hydatid fluid, our practice has been to pass it through a Chamberland filter. We have obtained more abundant precipitates with one cubic centimetre hydatid fluid than with two cubic centimetres (as recommended by Fleig and Lisbonne), probably because the small amount of the homologous protein contained in the hydatid fluid is sufficient to produce a marked precipitation in the antiserum, while the interaction is not hampered by over-much dilution. This also is in harmony with our previous work on serum and egg-white precipitins.

In the course of our experiments with hydatid precipitins we encountered one hydatid fluid which gave no precipitate, in addiments of two cubic centimetres, either with the serum of the patient from whom it was obtained, or with the serum of other hydatid patients. When, however, these tubes, after standing 48 hours without showing any precipitate, each received the further addition of one cubic centimetre of clear fluid from another hydatid invasion, distinct precipitates were obtained. It was certainly anomalous to find that the first hydatid fluid failed to precipitate the serum of the patient from whom it was obtained, while the serum of that patient reacted strongly with the hydatid fluid obtained from a different patient. We may note that each of the hydatid fluids above referred to contained, approximately, the same amount of albumin (about 0·025 per cent.).

The fact that not all hydatid cysts contain fluid capable of interacting to give a precipitate with the serum of the patient may be an explanation of the negative results obtained by earlier workers. What we would emphasise is that hydatid fluids may vary greatly in their capacity for interaction with the serum of a hydatid patient, but that a hydatid fluid which reacts strongly with the serum of the patient from whom it was obtained reacts also strongly with the serum of other hydatid patients. These facts are of importance in the selection of a stock of hydatid fluid in the diagnostic applications of the test.

Summary of cases of hydatid invasion, all of which gave a marked precipitate reaction when tested before operation.—1. Male, 35 years. Three small hydatid cysts with clear contents in peritoneum. Hydatid of liver removed eight years ago. 2. Male, 42 years. Multiple hydatid cysts of liver, some of which were full of clear fluid, others shrunken and inspissated. Not all cysts removed, yet reaction very feeble six and seven weeks after operation. Death in eighth week. 3. Male, eight years. Large single cyst of liver with clear contents. 4. Female, 14 years. Multiple hydatids of peritoneum with clear contents, following ruptured hydatid of liver. Marked reaction eight weeks after operation. 5. Male, 13 years. Single hydatid cyst of liver with clear fluid contents. 6. Female, 17 years. Multiple cysts of peritoneum with clear fluid contents, dense matted adhesions. 7. Male, 50 years. Suppurating hydatid cyst in muscles of thigh, well-marked reaction three weeks after operation. 8. Male, 48 years. Large hydatid cyst of liver with slightly turbid contents. 9. Male, 23 years. Large hydatid cyst of liver with slightly turbid contents.

Conclusions.—1. The interaction between selected hydatid fluids and a sufficiency of the serum of a patient affected with hydatid disease has, in our experience of nine cases, never failed to give a positive precipitin reaction when tested before operation. 2. Not all hydatid fluids are capable of eliciting this reaction, and their failure is not associated with any noticeable diminution of their protein content. 3. Persistence of a marked reaction some weeks after operation probably indicates the continued presence of the parasite, but the disappearance of the reaction does not necessarily indicate complete removal of the cysts. 4. A positive reaction is independent of the site of the hydatid cyst (hepatic, peritoneal, muscular) and independent also of the nature of its contents (clear, turbid, or purulent).

---

[4] THE LANCET, March 7th, 1908, p. 702.

[5] G. A. Gibson: Textbook of Medicine, vol. ii., p. 52.

[6] Jackson Clarke: Surgical Anatomy, p. 303.

[1] Comptes Rendus de la Société de Biologie, tome lxii., No. 23, 1907, p. 1198.

[2] Published in 1906 and quoted by Fleig and Lisbonne, *loc. cit.*

[3] Welsh and Chapman: Proceedings of the Royal Society, B. vol. lxxviii., p. 297, 1906.

the external semicircular canal and the inner tympanic wall, directing particular attention to the pelvis ovalis and to the fossula rotunda. It is scarcely necessary to state that, for the conduct of such examinations, the cavity must be well illuminated and free from blood. In deliberate operations on the labyrinth the preliminary radical mastoid operation is performed and it is essential that as much room as possible should be made available by the free removal of the boundaries of the mastoid operation cavity and of the posterior meatal wall. It has been found necessary in some cases also to remove the anterior wall and floor of the bony external meatus. We shall describe the operations which we have carried out for labyrinthitis, quoting certain cases in illustration and referring to the others under the numerical headings of the original paper. The order of cases is categorical not chronological.

Superior vestibulotomy.—To open the vestibule from above the outer limb of the external semicircular canal is followed forwards above the facial aqueduct until the ampulla is opened. When this is effected the vestibular roof is completely removed by extending the operation forwards and upwards into the ampulla of the superior semicircular canal and the lower part of its ascending limb and destroying the small mass of compact bone which lies between the proximal parts of the two canals. Though a simple and short procedure we have found this an inadequate operation to ensure drainage of the vestibule if carried no further. After removing the roof of the vestibule the external and superior ampullary nerves can be easily destroyed with a small sharp curette as they run in the anterior and outer wall of the vestibule at the level of the upper margin of the facial aqueduct. We have discarded simple superior vestibulotomy after performing it twice only (Cases 1 and 2) and losing one patient through the inefficient drainage afforded by the simple superior opening. We consider such cases require double vestibulotomy (*vide infra*).

CASE 1.—The patient was a male, aged 12 years. Cholesteatoma; erosion of external canal and roof of the vestibule (left side). Symptoms: none referable to labyrinth; recent acute mastoiditis. Operation: radical. Fistula of external canal leading into vestibule; the vestibule was curetted but not opened below. There was no escape of cerebro-spinal fluid. Result: meningitis developing on the third day; death occurred on the fourteenth day.

The second case in which we performed this operation was complicated by cerebellar abscess to which death was due. Hinsberg described one fatal case similar to Case 1.

Superior vestibulotomy with complete removal of the canals.—We have performed this operation once only, in a case of post-suppurative vertigo (Case 3). It is a tedious undertaking and we now know that the symptoms can be relieved by an operation on the vestibule without removal of the canals.

Inferior vestibulotomy.—To perform this operation the vestibule is opened below the facial nerve by removal of its outer wall. This opening, which should be as complete as possible, is attained by removing the stapes if still present and cutting away the ridge of bone between the fenestra ovalis and the fossula rotunda. In this way the outer wall and part of the floor of the vestibule are removed, while it is not anatomically necessary to interfere with the fenestra rotunda, or to remove the membrana secundaria. The posterior ampullary nerve may be destroyed by introducing a small curved curette and cutting against the inner and posterior part of the floor of the vestibule. Case 4 of our series was an example of *simple inferior* vestibulotomy performed for tuberculous invasion of the vestibule through the inner tympanic wall.

Inferior vestibulotomy with partial or complete removal of the cochlea.—When the first half-turn of the cochlea is diseased it is easily opened by working forwards from the vestibule. The second turn of the cochlea lies deeper and higher and is difficult of access, except in infants, unless the bony meatus is removed. This should be done as far as the annulus tympanicus anteriorly and below, the periosteum of the tympanic plate being pushed forwards and held aside with a narrow flat retractor. In following up disease in the cochlea the position of the internal carotid-artery must be borne in mind lying below, in front, and somewhat internally. Inferior vestibulotomy was performed in five cases of our series (Cases 4, 5, 6, 7, and 8).

CASE 8.—The patient was a female, aged 13 years, who was admitted with chronic suppurative otitis media on the left side. Symptoms: headache, vomiting, and convulsions followed by unconsciousness. A radical mastoid operation was performed. Cholesteatoma was found in the antrum and tympanum; the promontory had been destroyed by disease. The vestibule was opened below the facial nerve and the first half turn of the cochlea was removed. Result: complete recovery.

We have come to regard inferior vestibulotomy as a good and adequate means of draining the vestibule in cases of infection. The removal of the first half turn of the cochlea is especially indicated when there is complete perosseous deafness on the affected side and when the promontory is the seat of disease.

Double vestibulotomy.—These two operations, superior and inferior vestibulotomy, may according to the indications be combined in various ways along with their extensions. Of these combinations the most important is that of superior with inferior vestibulotomy, constituting what we have called "double vestibulotomy." While our methods differ in some particulars, the operation is, we find, essentially that described by Dr. Milligan under the title of the "bridge operation." Cases 9, 10, 11, and 12 of our series were examples of double vestibulotomy.

CASE 9.—The patient was a male, aged 33 years. Though deaf in the left ear he had noticed no discharge whatever. There had been constant vertigo with paroxysms, accompanied by vomiting; he had several times fallen down as if in a fit. Objects appeared to move from left to right. The patient felt as if he were moving from right to left. In walking or standing with eyes closed he swayed to the left. Tuning fork on the vertex referred to the right ear. He had severe headache and pain in the ear. Otoscopic examination showed a large perforation with a dry cholesteatoma occupying the tympanum, on removal of which a small mass of granulations was seen in the pelvis ovalis. Operation: radical. There was no erosion of the external semicircular canal or the promontory. A fine probe entered the vestibule by its own weight, through the granulations in the fenestra ovalis, without encountering the slightest resistance. Double vestibulotomy was performed. Result: immediate disappearance of all symptoms. In this case facial paralysis gradually developed but afterwards completely recovered.

Cases 13, 14, and 15 were examples of double vestibulotomy combined with partial removal of the cochlea.

CASE 13.—The patient was a male, aged 38 years. There had been chronic suppurative otitis media (left), cholesteatoma, fistula of the external canal, and acute suppurative labyrinthitis. Symptoms ten weeks before operation: initial giddiness and repeated vomiting; horizontal vertigo, objects moving from left to right; had walked "as if drunk." At the time of operation he was only giddy on moving his head. He had an incoördinate swaying gait. There was no perception of sound on the left side. No nystagmus was present. The temperature and pulse were normal. Operation: radical. The external canal was opened and a defect of the roof of the vestibule was discovered. Pus was found in the vestibule. Double vestibulotomy was performed with partial removal of the cochlea. Result: loss of all vertigo and of feeling of insecurity; complete recovery. There was temporary facial paresis which rapidly recovered.

Extirpation of the labyrinth.—We reserve this term for the complete opening up of every portion of the bony chambers, i.e., double vestibulotomy with destruction of the whole length of each canal and of the cochlea. We have three cases of this description (Cases 16, 17, and 18). We think that this operation is rarely called for except in some cases of tuberculous disease—e.g., the following:—

CASE 16.—The patient was a female, aged 11 years. There was tuberculosis of the middle ear and petrous (left side); also fistula of external canal, chronic tuberculous labyrinthitis, and acute infective labyrinthitis. Operation: radical, with complete extirpation of the labyrinth. Result: rapid and complete healing.

Simple curettage of the carious portion of the labyrinthine capsule was carried out in six cases (Cases 19, 20, 21, 22, 23, and 24). None of these has been submitted subsequently to further operation on the labyrinth. In all the lumen of the external semicircular canal was found to be laid open by destructive disease, but was sealed by granulations. Labyrinthine symptoms were absent at the time of operation. A fistula in this situation may betoken a sequestration cavity, as will be seen from the following account.

Sequestrotomy.—The removal of sequestra of the labyrinth constituted the earliest recorded operations on the labyrinth. In nearly all cases in the literature the facial nerve had been the labyrinthine capsule in ten cases, accounting for seven out of 14 of the cases of fistula of the external semicircular canal, and twice leading to destruction of the footplate of the stapes. Twice the labyrinth was involved through definite regions in the spread of tuberculous disease.

Opportunities for the examination of the infective organisms of labyrinthitis have occurred in only a few cases. One of us cultivated streptococci from the vestibule in a case of acute suppurative labyrinthitis and in another we obtained a similar organism from the fluid in the internal auditory meatus post mortem. It is probable that in this, as in the other major complications of suppurative otitis media, the streptococcus pyogenes is the most frequent and important agent. The labyrinthitis set up may vary widely in intensity and extent; it may be of an acute suppurative type or may be chronic and progressive, leading to the formation of granulation tissue within the labyrinth. Acute suppurative labyrinthitis is probably always diffuse, but chronic granulating labyrinthitis may have any extent from that of a local invasion in a semicircular canal to the involvement of every part of the chambers. In the early stages of acute labyrinthitis the membranous structures are intensely injected, the membranous canal instead of being invisible appearing as a brilliant red thread when the bony canal is opened. The perilymph in the vestibule is turbid and blood-stained and the utricle and saccule cannot be recognised. Blood-stained and turbid fluid also occupies the scalæ of the cochlea. In histological sections of the cochlea in a case of fatal acute streptococcal labyrinthitis one of us found infiltration and proliferation of round cells completely obscuring the finer features of the membranous cochlea.

We have been unable to find any traces of the normal structures in the granulation tissue from the vestibule in cases of chronic labyrinthitis. The osseous labyrinth is also involved in labyrinthitis, to a greater or less extent, showing local caries or necrosis according to the acuteness of the inflammation of the dense labyrinthine capsule. Such necrosis may include virtually the whole of the labyrinth, but it seems the rule for the cochlea on the one hand and the vestibule and canals on the other to form separate sequestra rather than to be exfoliated in continuity. Vestibular sequestra generally include some part of the wall of the internal auditory meatus. Where the inflammation has been less severe or has been arrested by drainage the labyrinthine cavities may become occupied after resolution by a fibrous tissue mass which may subsequently ossify. The cochlea appears frequently to escape either wholly or in its apical portion when the vestibule is the site of a granulating inflammation. These various conditions were observed during operation, acute diffuse labyrinthitis being recognised five times, in three of which pus escaped when the vestibule was opened, while granulation tissue was removed from the vestibule in four cases of chronic labyrinthitis. We saw three cases of local granulations within the external canal in which no labyrinthine symptoms were present, and the vestibule was not explored. There were six cases of sequestration, two involving both cochlea and vestibule with canals, two of the cochlea only, and two of the vestibule and canals only.

The inflammatory process shows a marked tendency to spread from the labyrinth along the perineural arachnoid sheaths of the nerves in the internal auditory meatus. The effusion here may be plastic, sero-purulent, or serous. In the latter case the sheath is distended and may lead to a local area of marked distension of the subarachnoid space, between the lateral aspects of the pons and cerebellum, limited by delicate marginal adhesions; or there may be associated a general serous meningitis. In some cases infection seems to take hold upon the cerebellum with the production of an abscess, sometimes interlamellar, while clearing up within the internal meatus. The fatalities from labyrinthitis are due to this intracranial spread of infection, except in such rare cases as one of our series which succumbed to acute streptococcal septicæmia. Two cases of our series died from cerebellar abscess, one without operation; one from consecutive meningitis after an inadequate operation on the labyrinth, and one from acute internal hydrocephalus without operation on the labyrinth. The last form of fatal issue appears to be directly consequent on the localised serous meningitis described above. We have not met with abscess of the saccus endolymphaticus nor with isolated erosion of the superior canal, conditions which have been recorded by other observers; the anatomical grounds for such conditions are sufficiently obvious.

Symptoms and special tests.—It is a remarkable thing that many cases of gross labyrinthine disease present no obvious symptoms of the condition. Of our patients, nine had no symptomatic features calling attention to the labyrinth, among them being four cases of fistula of the external canal and two of sequestration of large portions of the labyrinth, while in another tuberculous disease had invaded the vestibule. Where symptoms are present the most frequent and characteristic is vertigo and of the 26 patients operated upon no less than 16 were giddy. We have reserved the term vertigo for a sense of rotation in a definite direction, either of external objects or of the patient. The plane of apparent rotation is most commonly horizontal, 11 of the 16 being of this class. More rarely a vertical or oblique plane is met with. In four cases there was a marked tendency to fall towards the affected side. Vertigo may be short lived and may disappear permanently after a few days, or may persist for many months, either constant with exacerbations, or intermittent. It is interesting physiologically that an isolated lesion of the cochlea was never associated with vertigo. Vomiting may be due to labyrinthine disease or to some concomitant intracranial lesion. Its association with vertigo produces a clinical picture which in combination with middle-ear suppuration is almost certainly diagnostic of labyrinthitis. 14 of our cases vomited at some period of the disease, but in five of them intracranial complications may have been productive of this symptom. Cochlear symptoms are, on the whole, less strongly marked: tinnitus was only complained of by three patients, though all were markedly deaf. Local deep-seated pain has been prominent in acute labyrinthitis. Headache is common, but a severe type is not. Constant and severe headache may be caused by the presence of a sequestrum. General disturbance with raised temperature and frequent pulse has only occurred in acute labyrinthitis. In spite of the frequency of vertigo we have not met with spontaneous nystagmus.[3]

While there may be a complete absence of symptoms under ordinary conditions it is probable that all cases of labyrinthine disease may be made to show symptoms in special circumstances and we have found the following special tests of such value in eliciting them that we have made them a part of our routine investigation. 1. Rombergism. The patient shows abnormal instability and this may be especially marked on one side when the attempt is made to stand on a single foot with the eyes closed. As a rule, swaying or falling is toward the affected side. 2. Gait is often rather characteristic, even with the eyes open, in cases of vertigo. The feet are planted unnaturally widely and in walking along a straight line there is a tendency to deviate to the affected side, which may be visibly corrected by voluntary readjustments. There may be marked ataxic gait. 3. Nystagmus may always normally be evoked by rotation and possesses a quite definite type in the normal subject. We have found abnormalities or absence of nystagmus after rotation in cases of known labyrinthine lesion and consider that such reactions are strong evidence of the presence of some disturbed condition of the labyrinth.

Operative interference is called for in all cases where there is good evidence of infective disease, resting either on the presence of symptoms and the response to special tests or on operative discovery in the course of the radical mastoid operation. As the cases without symptoms share all the risks of the condition a most careful search should always be made over the whole of the area of the outer labyrinthine wall. We consider that all cases in which the vestibule or the ampullary ends of the canals are involved should, for the safety of the patient, be thoroughly opened up and drained. Cases of fistula or caries of the canal behind the ampulla presenting no special symptoms should be locally curetted and given their chance of healing. It is well to remember that a fistula of a canal may lead into the cavity which incloses a deep-seated sequestrum. When the promontory is perforated the area of disease should be completely removed and the vestibule should at the same time be opened and drained.

Operative surgery with illustrative cases.—The main conditions which call for surgical aid in the form of deliberate operation on the labyrinth appear to us to be the incapacity produced by vertigo and the danger of infective meningitis. In operations on the middle ear for the relief of chronic suppurative otitis media we invariably note the condition of the outer wall of the labyrinth—that is, of the eminence of said, is forced to overwork itself. The wards often contain 40 or 50 beds. Night duty is relegated to perfect beginners, without experience and without ability, quite unaccustomed to hospital discipline. The natural result of these bad sanitary conditions in the hospitals of Paris is that the mortality from consumption is something appalling. The staff has only a very hazy idea as to its moral responsibilities. Tips are allowed as quite a matter of course. Be it said, however, that these women are at heart extremely good-natured. The evil lies in their social position. Tips do not humiliate them. Permission to marry is disastrous. The result is additional fatigue and overwork, for these women must use up their leisure moments in looking after their homes.

---

[3] Since this was written we have met with spontaneous nystagmus in a case of acute labyrinthitis.

A serious omission in the organisation of the hospital staff is the absence of a woman at the head of affairs—the matron of the English hospitals. The result is that the promotion of a nurse is more often due to political influence than to personal merit. This, no doubt, is a matter of astonishment to the English, but as the municipal authorities are at the head of affairs in the French hospitals their great object is to stand well with their electors rather than to consider the rights of the nursing staff. To rightly judge it is above all expedient to take into consideration the ways of the country; thus, what would cause astonishment in England comes as a matter of course in France. This will account for the fact that in all the wards of the French hospitals men nurses work side by side with the women nurses. Do not let us overlook the fact that in the French hospitals men—nurses and employees of all sorts—are very numerous. Thus often the women nurses are married and are lodged with their husbands in the hospital.

These are the things which render it so difficult rightly and properly to recruit the hospital staff. Let us examine for a moment how this situation may best be remedied. Reform is possible, but there must be less centralisation, requiring everywhere an identical organisation. As to the Parisian hospitals one must not seek to reform them all at once. At first the reform should only be applied to *one single hospital*, for preference a new one, for it naturally follows that a staff recruited according to the new régime cannot have mixed with the existing one. The wisest thing to do would be to adopt the English system, which is the best—offer to young girls the means of acquiring a diploma which would enable them to earn their living and in return require of them their services in looking after the sick. The question of money is a secondary consideration. Above all, a moral reform is absolutely essential.

To turn out a good nurse we must take her from surroundings entirely different from the present one. We must try to get young girls who have received a certain amount of instruction and a fair education. The celibacy of the nurse must be insisted upon. This reform is absolutely imperative in spite of the prejudices existing in France on the subject. There must be a woman at the head, answering to the "matron," who shall be held responsible for the staff and shall be in direct touch with them. The nurse must undergo a practical training, given in the wards by other nurses who have themselves passed through the training that they are imparting to the beginners. The theoretical teaching of the doctors is but the complement and *not* the principal. In France, too, much importance is laid upon theoretical instruction to the exclusion of the practical. The duties of a nurse are quite different and quite separated from those of the domestic "ward maids." The number of men employed and, above all, lodged in the hospital should be greatly reduced. A certain number of male employees is, of course, necessary but only women should be called upon to nurse the sick. Sweeping changes must be made in the treatment of the nurses, both physically and morally. As in the English hospitals, they must no longer be treated as servants. They must have every consideration and, at the same time, gain an honest livelihood, both as to salary and as to food. Above all, they must have comfortable quarters, cheerful and bright, where, after their many hours of hard work, they may retire and feel at home.

Now, these reforms would not be very costly: it means changing the hospital into a training school, teaching the staff hospital and private nursing, and, in return for such teaching, having a call upon their services in nursing the sick, as is done in England. Their training once acquired, these nurses would gain their diplomas and be capable of looking after the wards and in the end become *fully qualified hospital nurses.* Quite recently the administration of the Assistance Publique tried to improve the condition of the nurses. First and foremost, they tried to increase the salary of the nurses, so that they might be able to raise themselves, put something by—in a word, accomplish a moral reform.

Many practical reforms have recently been attempted in the private hospitals of Paris with reference to the creation of a staff upon the new lines. It is to be hoped that this example may be followed by the large hospitals. These efforts should receive the encouragement of the doctors and of the public and have no sectarian interest; still less must they be anti-sectarian.

Aix-les-Bains.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

◆

SPONTANEOUS RUPTURE OF THE HEART.

By A. F. Theobalds, M.B., Ch.B. Edin.,
PATHOLOGIST AND ASSISTANT MEDICAL OFFICER, WEST RIDING ASYLUM, WAKEFIELD.

THE following case of a patient surviving spontaneous rupture of the heart for six days is worth recording. The patient was an inmate of the West Riding Asylum for 26 years and died in November last, aged 65 years. He suffered from chronic mania, and on the whole was fairly quiet and in good health. About a year ago he was found to have a mitral systolic murmur but it did not seem to inconvenience him. One Tuesday he was seized suddenly with what was thought to be an ordinary syncopal attack and was put to bed. He soon recovered, however, but on Sunday morning died suddenly while still in bed.

At the *post-mortem* examination the pericardium was found to be distended with fluid blood; the heart was enlarged and weighed 375 grammes. On the anterior surface of the left ventricle near the middle and to the outer side was seen a small sub-epicardial hæmorrhage of about the size of a halfpenny, on the outer side of which was the external aperture of the rupture of about the size of a pin's head. On cutting through this the rupture was seen to extend from the inner surface of the ventricle and to be V-shaped. The wall of the ventricle was fully half an inch thick, but was pale, soft, and flabby. The coronary arteries, however, were apparently healthy. The mitral valve was dilated and there was slight thickening of the aortic valves, the first part of the aorta also being slightly roughened. The vessels at the base of the brain were markedly atheromatous and the choroid plexuses were calcareous.

A somewhat similar case, also in an insane patient, was published by Dr. H. Kerr in THE LANCET in 1904[1] in which he refers to the rarity of the condition. In his case, however, the patient apparently succumbed immediately, although, as in the one above, there was no history of sudden exertion or strain.

I am indebted to Mr. W. Bevan-Lewis for permission to publish this case and to Dr. J. A. Creighton, assistant medical officer, for the clinical notes.

Wakefield.

NOTE ON A CASE OF OSTEO-FIBROMA OF THE MAXILLA.

By Andrew Wylie, M.D., C.M. Glasg.,
ASSISTANT SURGEON, CENTRAL LONDON THROAT AND EAR HOSPITAL.

With a Pathological Report by V. H. Wyatt Wingrave, M.D. Durh., *Pathologist to the Hospital.*

THE patient, a man, aged 53 years, consulted me on Jan. 9th complaining of a "growth in the palate" of 25 years' duration. He suffered no pain and very little discomfort; in fact, he stated that beyond a certain amount of anxiety it gave him no trouble, and having grown slowly and gradually he had got quite used to it. Mastication and deglutition were performed without any difficulty, and with the exception of a slight "thickness" or impaired resonance destroyed by the disease or was sacrificed in extracting the sequestrum. In our experience sequestra involve either the vestibular region or the cochlea, or both. While we have met with sequestra of both parts in the same labyrinth we have not met with a case in which the whole labyrinth formed a continuous massive sequestrum. Sequestra of the cochlea readily separate, consisting generally of the promontory and first half turn only. The converse is the case with sequestra of the vestibule and canals. These are deeply situated on the inner side of the facial nerve and involve the posterior wall of the internal auditory meatus. Such sequestra lie posteriorly against the dura mater covering the cerebellum. Sequestra of the vestibule and canals must be sought for, and should be sought for, when there is reasonable ground for suspecting their presence. They may be discovered by probing fistulous tracks and may be suspected where granulations are persistently re-formed. The sequestrum must be freely exposed before attempting to dislodge it. It may be necessary to cut away apparently intact portions of the labyrinth before the dead mass of bone is exposed, for the typical sequestrum does not include any part of the outer surface of the labyrinth. Three of our cases (Cases 25, 26, and 14) were examples of sequestrotomy, the sequestra being removed in each case by the posterior route—i.e., behind the facial nerve. Case 29 was an example of spontaneous exfoliation of the cochlea.

---

[1] THE LANCET, Dec. 31st, 1904, p. 1832.

In addition to the 26 cases illustrating operative procedures on the labyrinth our knowledge of infective labyrinthitis was extended by other cases which were not operated upon. We quoted four of these cases (Cases 27, 28, 29, and 30) which appeared to present important clinical or pathological features bearing on the surgery of the labyrinth.

Results.—The cases submitted to operation on the labyrinth have healed with such absolute uniformity that we are led to suspect that the cause of some at least of the failures after the radical operation may be due to disease of the labyrinth. In every case in which vertigo was present it has been completely and permanently relieved. We have been fortunate in having no case of permanent facial paralysis. In only one case has there been a death due to the operation, this being after an inadequate operation, superior vestibulotomy. We lost two other cases through not operating on the labyrinth.

In conclusion we would assimilate the grounds for operation in labyrinthitis with those justifying the radical mastoid operation, and we believe that the time will come when no aural surgeon will be content to leave an infective cavity in such perilous proximity to the meninges.

THE NURSING DIFFICULTY IN FRANCE.

BY J. DARDEL, M.D. PARIS.

FOREIGNERS visiting the French hospitals have often heard the medical officers complain of the nursing staff. These complaints are well founded, but to what may we attribute them and how may they be remedied? In former times the French hospitals were served by nuns. In Paris, above all, many communities of *religieuses* undertook the nursing required by the Assistance Publique. It is a well-known fact that the Assistance Publique is entirely taken up with the care of the very poor, their nursing, &c., and visiting them in their own homes, for the French law makes the working of independent hospitals an affair of extreme difficulty.

Some 30 years ago the Municipal Council of Paris decided to secularise the hospitals. This was a very tedious and difficult undertaking, for it concerned no less than 15 of the larger hospitals. At the present moment an almost complete change has been effected and the towns and the provinces are also following suit in the example given by Paris. The new enactments of the French Government (1901) make it simply a question of time when, in the not very distant future, the nursing of the nuns will become simply a remembrance of the past. What object had Paris in view when she decided upon so sweeping a reform? The secularisation of the hospital staff is merely a political move.

Let us just touch upon the fundamental cause for this great reform. First and foremost it was a question of dealing a blow at a party which had been defeated in the electoral struggles. It is worthy of remark that in the discussions of this period (1880-85) questions of a technical order occupy but little space. In fact, there was small cause of complaint against the nuns. They fulfilled the rôle of sisters and staff nurses. They were few in number, about two for each ward; they did all the waiting and were held responsible by the medical officers and the administration. Under them a non-religious staff rendered valuable assistance to the sick. This assistant staff was badly recruited, badly paid, and without training. The faults which they committed were often attributed to the nuns and cleverly brought home to them. The nuns were also accused of being too conservative. This is quite possible, for these *religieuses* were far from being perfect and there was much room for improvement in their training. But we must not overlook a date which was of great importance. The secularisation of the hospitals in France coincides with the period of antiseptic treatment. The idea of antiseptic and of septic treatment was taught as something new. It was a period of transition and the medical corps, as well as the nursing staff of the hospitals, had to adapt itself to new ideas. The old nuns, like all the others, had to go through a special technical training. The religious influence exercised on the conscience of the sick was of rare occurrence. On the other hand, the nuns knew how to suppress all licence and evil tendencies in the wards; they knew how to comfort the sick, by whom they were held in great esteem, as also by the doctors and medical students. No one ever dreamt of taking any liberties with the nuns.

When in the year 1880 the secularisation of the hospitals was decided upon, a thoroughly trained staff not being available, the administration accepted the first comers, whether competent or not, who nursed the sick—without even the most elementary ideas of the work—under the supervision of the nuns. This staff, somewhat domestic, was given almost the entire control of the wards. It was soon noted that they stood much in need of instruction. Schools for the nurses and staff were founded where, in certain cases, they had to be taught how to read. Those schools have now been open for 27 years and the results may be well guessed at. The technical instruction given there has borne fruit, but young girls with a sufficient moral education have not been attracted to them. They have turned out nurses capable of good work; their education has been improved, but the social position of the nurses has not changed. Now, so long as this is so really good nurses will be at a premium. What lowers the nursing profession in France is not the poor salary which they receive but the inferior rank of the nurses themselves, combined with the arduous work required of them and the little compensating comfort. The nurses in the Paris hospitals are badly paid when they enter. The salary gradually rises and the remuneration becomes equal to that obtained by nurses in England. This salary cannot be looked upon as a fortune but it is sufficient to permit of a woman living in comparative comfort if she is not encumbered with a family.

What kind of life is led by the nurses? They are lodged in dormitories which are both dirty and dismal, often mere garrets. Air is wanting and heating is unprovided. Furniture is very scanty, a wardrobe or a chest of drawers for little personal effects being all that is supplied—less comfort than in the room of a general servant. There is not a corner where the unfortunate woman can perform her most private toilette. The water-closets—common to both sexes—are very badly kept. There is no bathroom and no recreation or rest room. The dormitories are the same for those working during the day or the night, which means that in them perfect rest is almost impossible. The food is very bad and very badly served. To ask for better is out of the question. The director is an official of high importance and he, like the others, is but a tool of the great administrative machinery. It is necessary that there should be no trouble and no complaint. Neither can he ask for supplementary credit. In short, the nurse, no matter what her class is or her degree, is treated as a servant. All may be traced back to this mistake which is fundamental—the little consideration shown to the staff of nurses. The sick, the management, the medical officers, one and all are allowed regrettable familiarities with these poor women. The directors of the hospitals have always mixed up the classes, when a very clear line of division should be drawn between them. Young servants become nurses in the course of time by means of examination or by protection. This lamentable confusion prevents young girls who have had a certain amount of education from entering the hospitals.

This staff, so badly treated physically and morally be it paths. A diagram showing lateral movements of the jaw had been obtained by the subject sitting facing the wall. A demonstration was then given of the geometrical theory of the centre of rotation for plane motions. It was shown how for any such motions of translation combined with rotation two polygons and curves called "centrodes" could be derived, these "centrodes" being uniquely associated with the particular movement. The movement could be reproduced by rolling one centrode upon the other. Charts and models were exhibited illustrating the paths of the condyle and symphysis and the centrodes derived from these paths. Mr. Bennett proved by these means that for the ordinary movements of the mandible in opening and closing the mouth there was no fixed centre of rotation, but that the centre was constantly shifting its position, and its path might be marked out starting behind and below the condyle, passing backwards and downwards, then forwards, and finally upwards and forwards, finishing at a point a little below the condyle path. The general character of this path exhibiting the successive positions of the instantaneous centre of rotation was well shown in a large wooden linkwork mechanism based on mathematical calculations. The movement of the condyle and symphysis was demonstrated and the instantaneous centre at any particular movement found at the point of intersection of two moving indicators. Other details in connexion with the correlative positions of the paths of the condyle and symphysis were referred to and several interesting observations regarding lateral movements of the jaw were made. Mr. Bennett concluded by making some remarks on the bearing of his investigations on the question of an ideal articulator and the taking of "bites" for edentulous cases.

Medico-Psychological Association.—A meeting of the Northern and Midland Division of this association was held on April 30th, Dr. P. W. Macdonald, the President of the association, being in the chair.—Dr. Guy R. East, of Northumberland County Asylum, Morpeth, read a paper on a case of Cretinism, illustrated by photographs. The patient presented all the typical symptoms of this disorder. An interesting feature was the enlargement of the thyroid gland which was chiefly confined to the right lobe. This tumour was elastic to touch, freely moveable, painless, and in no way hampered respiration. The blood revealed a reduction in the percentage of hæmoglobin and the urine showed an increase in the amount of urea excreted. The patient had been under treatment with thyroid extract but had shown no signs of mental improvement.—The President remarked upon the rarity of cretins in asylums and said that after careful inquiry he had not found a single case in Dorset.—Dr. C. F. F. McDowall, of the City Asylum, Newcastle, read a paper upon the Occurrence of General Paralysis in Father, Mother, and Son. The cases were recorded, not that individually they were remarkable, but collectively they were extremely interesting, if not unique. In the only case, that of the boy, which might have caused a moment's hesitation in diagnosis, a post-mortem examination revealed characteristic lesions of general paralysis. The duration of the mother's attack was 10 years, while she had previously been under control in an asylum. The signs of general paralysis were only seen in her case five years before death. She was then living apparently contented in an asylum and why the cerebral degeneration should have commenced appears obscure. She was exposed to no strain or stress nor did she suffer privation. Syphilis could not be definitely proved but it could not be excluded. The man was a loose liver, while the boy showed certain suggestive lesions of congenital syphilis. The son was regarded as an undoubted example of juvenile general paralysis.—In the discussion which followed the President suggested that there was not sufficient proof that syphilis was present and he did not accept the proposition "No syphilis—no general paralysis." He could name cases of general paralysis in country districts in which he was satisfied that there was no syphilitic taint. He said it was remarkable that the mother had such a long period of excitement.—Dr. J. Middlemass (Sunderland) remarked on the long history in the mother's case and the weight of the son's brain (65 ounces) was unusual. He quoted a case of a congenital imbecile developing general paralysis in Morningside Asylum.—Mr. Gilbert E. Mould (Rotherham) continued the discussion.—Mr. Harold B. Cross, senior assistant medical officer at Storthes Hall Asylum, Huddersfield, showed two interesting cases, one presenting Marked Conical Cornea, and the other Atrophy of the Right Deltoid and Weakness of the Muscles of the Arm, the cause of which could not be ascertained.—Mr. Michael W. Kelly, assistant medical officer at Storthes Hall Asylum, also showed two cases: 1. A boy, aged 14 years, with Petit Mal. During the attacks, which lasted about 20 seconds, he used bad language. He awoke at night with a shout as if dreaming, but stated that he did not dream. Sometimes he had 20 of these during the night; at other times he might go four or five weeks without a fit. 2. A female, aged 30 years, who in January, 1906, developed Acute Melancholia with Active Suicidal Tendency. In the following September and October she refused food and had to be tube-fed and appeared to be becoming demented. She was transferred to Storthes Hall on March 5th, 1908, began to take interest in her surroundings, and now appeared to be on the road to recovery.

Medico-Legal Society.—A meeting of this society was held on April 28th, Mr. Walter Schröder being in the chair.—Mr. F. G. Frayling read a learned paper on Infanticide, its Law and Punishment and Suggested Alterations. He held that owing to the slight possibility of being able to prove the dead child's previous "separate existence in law" and to the ordeal of the mother committed for trial on the capital charge the crime should be no longer regarded as murder, from which it differed in several particulars; a distinct offence should be created or it should be regarded as a misdemeanour or a felony, otherwise the Prevention of Cruelty to Children Act, 1904, might be modified and applied to the newly born.—Mr. Schröder felt that juries realised that they were often not dealing with the person most concerned; further, the death sentence was not a deterrent in these cases as it was never carried out.—Dr. Charles A. Mercier thought that the appearance of the accused girls led juries to exhibit a leniency to which they had no claim; he doubted if such girls were so sensitive in nature as was sometimes alleged. The jury might fancy that newly born children were hardly endowed with a conscious being, but such an idea was not present when charges of abortion were considered. The sanctity of human life must be guarded; the death penalty was a real deterrent.—Dr. W. H. Willcox regretted the present attitude of the law which led to proceedings in these cases which were almost farcical.—Mr. John Troutbeck thought that coroners were the only officials who saw what a wicked and important crime infanticide was: they had to deal with the many babies which were cast away. The criminal courts only met cases which could be traced; usually no clue was available. If violence had preceded the attempted concealment of birth the matter deserved to be treated seriously. It was notable that sober married women regarded this offence very seriously and in no case should it be treated as a matter of no great consequence.—Dr. L. Freyberger thought that the need of proving technical "separate existence" should be abolished, as it prevented the law from dealing fairly with the case; sometimes the death might have been the irresistible result of a dominating idea.—Dr. James Maughan believed that insanity of parturition was a possible, if rare, condition. The penalty for the offence of infanticide was at present inadequate in practice.—Dr. C. H. Wise thought that in this as in other matters the public suffered from the subtlety and ingenuity of lawyers. It was absurd for a hiatus to exist between procuring abortion and killing a child after birth. All punishment in legal offences should be sure and certain. The violence exhibited by mothers in some of these cases might be explained by ignorance, terror, and frenzy.—Dr. B. H. Spilsbury urged that medical men might at times have difficulty in deciding whether a child is living or dead, much more difficult would it be for an ignorant woman; evidence of viability should be considered and the presence of wilfulness examined.—Mr. F. O. Arnold held that infanticide was more prevalent than the criminal statistics would suggest, hence great care should be taken before alterations were made. The conditions of each case influenced the jury more than the strict law applicable.—Mr. Frayling having replied, the meeting was closed.

Devon and Exeter Medico-Chirurgical Society.—A meeting of this society was held on April 9th, Mr. G. L. Thornton, the President, being in the chair.—The President read notes and commented on a case of Arthritis with Purpura. The patient was a young married woman in the eighth month of her first pregnancy. There was nothing unfavourable in her family history or previous his voice and articulation were normal. He had always enjoyed perfect health and his teeth were sound. On examination a large smooth oval swelling was seen occupying the whole of the hard palate. It was the same colour as the surrounding mucous membrane; it was not tender to the touch, very firm in consistence, and slightly moveable on steady pressure. It was apparently attached by a thick pedicle to the left alveolus behind the second molar and had moulded itself to the hard palate. Without employing any anæsthetic a stout wire was passed round the tumour by means of the ordinary Wylde's polypus snare and with the exercise of moderate force the pedicle was cut through with a grating noise suggestive of bone crushing. There was practically no bleeding at the time of the operation or afterwards from the stump which was of about the size of a sixpence and healed rapidly without any complication.

Pathological report by Dr. WYATT WINGRAVE.—The tumour has the appearance of a new potato; it measures 5 by 2·8 centimetres and weighs 13 grammes. The cortical part for a depth of about five millimetres is firm and tough and incloses a hard stony core which reaches the surface at its point of attachment. In structure the cortex is composed of densely packed white fibres mingled with elongated fusiform cells (fibroblasts). The stone-like core consists of compact bone with relatively small cancellous spaces approaching the character of ivory or petrous bone. In nature it is evidently an osteoma growing from the periosteum of the maxilla to which it was attached. There was no sign of any sarcomatous tendency.

Remarks.—Such growths are by no means uncommon in connexion with the facial skeleton, for 16 specimens were shown at the Pathological Museum of the Sixth International Otological Congress, London, 1899 (Churchill's Catalogue, 1900); but this case is interesting from its clinical appearance and its admitting of so easy a removal, since such tumours not infrequently grow in connexion with the maxillary antrum and involve the orbit and other important structures.

Harley-street, W.

A CASE OF CARBOLIC ACID POISONING; RECOVERY.

By EDWARD BALM,

CIVIL SURGEON, AURANGABAD, DECCAN, INDIA.

ON Dec. 21st, 1907, at 12.30 P.M., I was informed by the father of the patient that his son, aged 19 years, accidentally swallowed 4 ounces of pure carbolic acid half an hour before (thinking it to be some other mixture he was taking). The 4-ounce empty phial, labelled "carbolic acid," was brought and shown me. The boy was ordered to be brought to the dispensary and on admission the symptoms and signs were as follows. He was cyanosed, there was a dark ring round the mouth, there was stupor, the muscles were relaxed, he was unconscious, the breathing was laboured, the pupils were contracted, the cornea was not sensitive, the skin was cold and clammy, the pulse was very thready, and frothy mucus escaped from the mouth. The stomach was washed out by the pump after administering six ounces of castor oil; 3 ounces of Epsom salts in solution were then given. After this the patient began to get worse. The breathing became stertorous, froth issuing from the mouth and the nose, the cornea was insensitive, and the pulse was only a feeble wave. I then gave him a rectal injection of 1 drachm of the tincture of digitalis and 1 ounce of rectified spirit in 6 ounces of water—i e., two hours after admission.

Finding no improvement I commenced artificial respiration and gave a hypodermic injection of 5 minims of liquor strychninæ as the breathing was very stertorous and the pulse was imperceptible. This had no effect, and when all hopes of the case were lost both by myself and the patient's relatives the idea struck me that if I were to relieve the lungs of their congestion it would help the action of the heart as well as that of respiration, and as a *dernier ressort* I removed an ounce of blood from the base of each lung by wet cupping (the blood was very fluid). Exactly four hours after the commencement of treatment and about 15 minutes after removal of the blood the cornea began to wince a little; a few minutes later the patient began to raise one of his legs, which was followed by the chattering of the teeth. Before the end of the fifth hour he fully recovered but complained of a dull pain in the head, burning sensation at the pit of the stomach, and painful throat.

The after-treatment consisted in steam inhalation for two days and a gargle containing chlorate of potassium. The patient was kept on milk and white of eggs for six days and for another six days a little gruel was allowed besides. On the twelfth day I discharged him from the hospital.

Aurangabad, Deccan, India.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

LARYNGOLOGICAL SECTION.

Exhibition of Cases and Specimens.

A MEETING of this section was held on May 1st, Dr. J BARRY BALL, the President, being in the chair.

The following cases and specimens were exhibited:—

Dr. W. S. SYME: A series of Stereoscopic Photographs of patients operated on by various methods for Frontal Sinusitis, one of which showed the effect of injection of paraffin to remedy the resulting deformity.

Dr. W. JOBSON HORNE: Nine specimens from cases of Sarcoma and cases simulating Sarcoma in the Upper Air-passages. In all the diagnosis of sarcoma was suggested on clinical or pathological grounds but the large majority proved eventually to be innocent growths.

Dr. DAN MCKENZIE: A case of Mucocele of an Anterior Ethmoidal Cell in a man aged 35 years; it had been successfully opened from the nose.

Dr. J. DUNDAS GRANT: 1. A large Post-nasal Polypus growing from the maxillary antrum of a young girl. 2. A case of Lupoid Tuberculous Ulcer of the Interior of the Nose in a phthisical patient. 3. A case of Congenital Laryngeal Stridor in a boy aged three and a half years; the stridor was marked, except when breathing very quietly, and had existed all his life with hardly any improvement.

Dr. JOBSON HORNE: A case of Lupus of the Epiglottis in a girl, aged 17 years, who had no sign of tuberculosis or of lupus in other organs.

Mr. H. CLAYTON FOX: A case of Abductor Paralysis of the Right Vocal Cord, with Paresis of the Facial Muscles.

Dr. W. H. KELSON: A case of Tuberculous Laryngitis.

Dr. ANDREW WYLIE: An Angeioma of the Right Tonsil in a woman, aged 26 years.

Dr. J. W. BOND: A case of Malignant Growth, situated behind the cricoid cartilage in an elderly woman, and associated with enlargement of the thyroid gland.

Mr. A. HAMILTON BURT: A case of Septal Deflection in a consumptive patient, for discussion on the advisability of operation.

Mr. E. WARD: Subcutaneous Induration of the Neck in a woman, aged 32 years.

ODONTOLOGICAL SECTION.

Exhibition of Specimens.—Movements of the Mandible.

A MEETING of this section was held on April 27th, Mr. H. LLOYD WILLIAMS, a Vice-President, being in the chair.

The CURATOR exhibited some recent additions to the museum, including specimens of Tusks of Female Dugong, Odontome in an Antelope, Jaws of a Horse and Skulls of Lemur affected by "Swollen Head," and Tumour of Palate of 20 years' growth, apparently a fibroma undergoing malignancy.

Mr. H. W. TREWBY showed models of a case of Incomplete Eruption of the Molars.

Mr. NORMAN G. BENNETT read a paper on the Movements of the Mandible. He described how a wire framework had been made to attach to the lower teeth and to carry two small electric glow lamps in a vertical plane parallel to the median plane. One lamp was immediately opposite the right condyle, the other opposite the sulcus below the lower lip. The subject had sat, during experimentation with the apparatus, with his right side opposite a wall with a large sheet of paper pinned upon it and a convex lens being interposed was so arranged as to focus the images of the lamps on the screen. Thus the paths of the condyle and symphysis during opening of the mouth had been obtained and corresponding points for different positions of momentary rest marked on the

Reviews and Notices of Books.

The Thirteenth, Greatest of Centuries. By JAMES J. WALSH, M.D., Ph.D., LL.D. New York: Catholic Summer School Press. 1907. Pp. 436.

WE have read Dr. Walsh's book with great interest and as he himself says in his preface that there may be errors in detail in his pages, we are sure that he will not mind our commenting upon some of these in the hope that when a second edition is called for, as it ought to be, he will see fit to revise his text.

The thirteenth century was, if not the greatest, at least one of the greatest periods of human thought. In the various forms of art, especially architecture, in literary activity, in the lives of men of extraordinary intellectual power, in a burning desire for the welfare of the human race as exemplified by missionary activity and the rise of the two great orders of the Dominicans and Franciscans, it stands out like some great mountain peak above the plain. But the activities of the century did not spring into birth as novelties. They were extensions of what had gone before. And here we think that Dr. Walsh, like the Player Queen in *Hamlet*, "doth protest too much," for the impression which his book gives is that the manifold activities of the thirteenth century were the product of that century and that they were in the main ecclesiastical. For instance, on p. 21 he says, "While the universities, as is typically exemplified by the histories of Bologna and Paris, and even to a noteworthy degree of Oxford, grew up around the cathedrals. ......" This is too wide a statement. The University of Paris undoubtedly did grow out of the Cathedral School, but Bologna grew from a society of students of law who were attracted by teachers of law such as Pepo and Irnerius.

As for Oxford, the beginnings of which University are somewhat nebulous but which probably took its rise in the expulsion from Paris of "alien scholars," it cannot be said that the University grew up around the cathedral. To begin with, there was no cathedral at Oxford until 1542. The cathedral church of the diocese in which Oxford was situated was Lincoln, more than 100 miles away. It is true, however, that the Chancellor of Oxford was the Bishop's delegate.

Again, Dr. Walsh in his third chapter, which deals with the studies of mediæval students, is rightly anxious to show that scholastic teaching was not mainly concerned with hair-splitting subtleties. He lays stress on the fact that St. Thomas Aquinas taught the doctrine of the conservation of matter and energy. "The truth itself, however, had been reached by this mediæval master mind, and was the subject of his teaching to the University students of Paris in the thirteenth century." He imples, it would seem, that St. Thomas arrived independently at this fact. No one will deny the vast intellectual powers of Aquinas, yet it had been taught long before by Lucretius and his predecessors. It is fair to state, however, that Dr. Walsh says on p. 40 that the views as to the ultimate constitution of matter recently put forward by Sir Oliver Lodge and others had been taught by the schoolmen who had adopted them from Aristotle. It may be noted in this connexion that a modern observer, M. Gustave le Bon, holds that energy is not indestructible.

On p. 337 Dr. Walsh claims that it is to Innocent III. that we owe the modern city hospital as we have it at the present time, yet on the following page he says that Innocent founded his hospital on the model of the one then existing at Montpellier. Dr. Walsh allows that St. Bartholomew's Hospital in London had been founded at the beginning of the twelfth century as a priory to take care of the poor and ailing, "but at the beginning of the thirteenth century it became more frankly a hospital in the modern sense of the word." Now St. Bartholomew's was always a hospital. In fact, the hospital was founded before the priory. Moreover, the statutes of the hospital at Angers which was founded in 1175, and was therefore be it remembered under the English Crown, give directions for the sick to be sought out and admitted for treatment.

In his chapter on the great Latin hymns (Chapter XII.) Dr. Walsh in his zeal for his favourite century is led into looseness of expression. He says that most of the great Latin hymns were composed during the thirteenth century and *a few of them shortly before* it. He then goes on to say that these hymns were sung by the whole congregation and that it seems probable that "people went to church during the thirteenth century more than 100 times a year." This is quite true, for besides attending mass on Sundays and on various other feast-days an English layman was supposed to attend evensong on Saturdays and "uht song" (matins) on Sundays as well.[1] But Dr. Walsh goes on to say, "Twice a week then at least there was the uplifting cultural influence of this congregational singing of wonderful hymns that are among the greatest poems ever written and that belong to literature of the very highest order." The hymns to which Dr. Walsh specially refers—namely, Dies Irae, Stabat Mater, and the Pange Lingua of St. Thomas Aquinas—were what is technically called Proses and were only sung on special occasions. Dies Irae was sung at Requiem Masses, Pange Lingua on Corpus Christi, and Stabat Mater on the Friday in Passion Week. There were, of course, many other Proses but they were mostly of much more ancient date than the thirteenth century, and we are by no means so certain as is Dr. Walsh about the congregational singing.

We are quite in accord with Dr. Walsh's enthusiastic admiration of the Latin hymns, only we protest against his assumption that the finest were the product of the thirteenth century alone. With the exception of the Dies Irae, which, in subject, diction, rhythmical and literary skill, stands, perhaps, on a plane by itself, many of the earlier hymns are equal to any of the thirteenth century. Take, for instance, the "Veni Redemptor Gentium" of St. Ambrose, the "Vexilla Regis" and "Pange Lingua" of Fortunatus, and the Palm Sunday Hymn of Theodolphus which commences "Gloria Laus et Honor, Tibi sit Rex Christe Redemptor."

Finally, we must refer to a few slips which are evidently due to incomplete revision. On p. 63 "Anstey's Mon. Acad." should be "Mun. Acad.," the full title of the book being "Munimenta Academica." On p. 196 the name Haydn is misspelt Hayden and on p. 267 the Rev. Augustus Jessop is called "a non-conformist clergyman in England." Dr. Jessop is the rector of Scarning, Norfolk.

We have given much space to this work and have pointed out its failings, with an earnest hope that as it contains much good work, and is evidently written by one who has tried his best, it may be revised for a second edition. The thirteenth century is so great an epoch that it does not need the attribution of matter to which it can lay no claim. "Vixere fortes ante Agamemnona," and although the art, the intellectual activity, and the enterprise of the century were remarkable they were not new departures. To take one other point. Missionary enterprise and exploration were much to the fore, especially in the East. Yet as early as the tenth century the great Nestorian Church had an organisation, although in formal heresy, which stretched from Asia Minor to China.

The Major Symptoms of Hysteria. By PIERRE JANET, M.D., Professor of Psychology in the Collège de France and Director of the Psychological Laboratory of La Salpêtrière. London and New York: Macmillan and Co. 1907. Pp. 345. Price 7*s.* 6*d.* net.

THE study of hysteria has, for a time, gone out of fashion in England. The rising generation is perhaps attracted by the more tangible results of bacteriology, and possibly the health. The onset of the illness was sudden with sore-throat, headache, backache, and articular pain. Purpuric spots were noticed on the second day. She aborted on the sixteenth day of the illness, the child (a male) surviving for a few hours. The puerperium was satisfactory. Fever of a mainly intermittent type continued until the sixtieth day and during the whole of this period she suffered intense pain in all her joints. Outward manifestations were limited to the knees where there was effusion but no redness. There was œdema of the feet and legs. Nervous disturbance with occasional hysterical outbursts of a maniacal nature during the first three months rendered any movement impossible. By January, 1906, massage and movements had rendered both upper extremities normal, but in the lower there was little mobility to be obtained in any joint. In June, 1906, the ankles moved more freely and there was improvement in the left knee-joint, but the right knee-joint and both hips appeared to be ankylosed. Spa treatment was now given a trial but after two months at Bath the patient returned *in statu quo*. Early in 1907 she at last consented to movements under an anæsthetic and with great difficulty the thighs were separated, the adhesions met with being chiefly outside the joints. The knee-joints were left to a subsequent operation. In April of the same year further movements were accomplished, the left knee-joint being flexed to the full and the right to about half the normal. Slight effusion followed. The patient was now undergoing a course of heat baths and massage, and there was promise of the joints being restored to almost normal function. The interest of the case lay, in the great amount of crippling although the illness was at no time severe enough to cause real anxiety (the temperature, save on one occasion, did not exceed 102° F.); in the conjunction of the arthritis with purpura, wherein arises the question of diagnosis; acute rheumatism and septic arthritis had both been put forward in addition to the provisional one of peliosis rheumatica made at the outset. In the President's opinion acute rheumatism was negatived by the want of reaction to salicylates, by the total absence of sweating, and by the normal blood picture at an advanced stage of the illness. Against the septic theory were absence of rigors and sweats, redness of skin, and signs of fluctuation around the joints. The almost normal condition of the articular joint surfaces subsequently discovered at the operations also negatived a septic origin. Until they were better informed on the whole of the arthritic affections purpura or peliosis rheumatica seemed to be the diagnosis to receive most support in this case. As regarded treatment quinine in effervescence appeared to have had some control over the pyrexia, but alkalies, salicylates, and aspirin were futile.—After the case had been discussed Dr. R. V. Solly read a paper on Acetonæmic Conditions.

---

[1] Rock: Church of our Fathers, vol. iv., new edition, 1904.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 16th, Dr. R. Gordon being in the chair.—Dr. Arthur J. Hall read a paper on Some Difficulties of Diagnosis. In considering how such difficulties commonly arose he divided the causes into (1) insufficient knowledge; (2) insufficient experience; and (3) insufficient data. The third of these causes could be further subdivided according as to whether the data were really non-existent or whether they existed but had not been obtained. Allowing for a certain number of cases in which insufficient experience led to erroneous deductions it must, he said, be generally admitted that the most common source of difficulty in diagnosis was due to insufficient data and that most commonly such inefficiency was due to hurried or to careless examination. These points were illustrated by numerous examples, particularly of functional nervous disorders simulating organic disease and of abdominal cases with unusual and confusing symptoms. The paper concluded with some remarks on the difficulty of diagnosing malignant disease of the digestive tube from functional disorders and a plea was made for a more general use of the assistance which the laboratory offered to the clinician in clearing up doubtful cases.—Mr. Arthur Connell read notes of the following cases and showed the specimens: 1. Uterus Bicornis Bicollis removed by Abdominal Hysterectomy from a girl, aged 15 years, who had menstruated for two days on one occasion only. Having missed three periods she began to have great pain at the fourth period and became very ill (vomiting, abdominal colic, &c.). Rectal examination revealed a large globular mass, elastic in character, occupying the vagina and continuous with a similar tumour to the right of the mid-line. On admission to the infirmary she was anæsthetised and in the lithotomy position by the most careful examination no cervical opening could be made out, so a trocar was inserted into the globular swelling and the usual chocolate-coloured retained menses escaped. A glass tube was used as a drain. In spite of every precaution to the contrary, about six weeks afterwards the temperature rose to 99° F. and the discharge became semi-purulent so hysterectomy was performed. The one outstanding item in the case that struck all concerned was the extreme rapidity of growth of the girl. She was an in-patient for nearly three months and from being a miserable little child for her age (15 years) was discharged quite a buxom young woman. 2. Acute Obstruction in a woman, aged 53 years, due to a columnar carcinoma growing at the junction of the cæcum with the ascending colon on the posterior wall. Operation was proceeded with in two stages and death resulted from stercoræmia. 3. This was the case of a patient who was admitted for Pain in the Right Side with Pronounced Constipation which was a usual habit. A columnar carcinoma was removed from the cæcum and ascending colon. An end-to-side anastomosis with a large Murphy's button was followed by an uninterrupted recovery.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 14th, Mr. H. Shackelton, the President, being in the chair.—Dr. T. Jason Wood showed a specimen of Extra-uterine Gestation and read notes on a case of Missed Labour.—Mr. J. Phillips showed the Brain of a boy, aged eight years, with a Cerebellar Tumour with Hæmorrhage into it causing sudden death. He also read a paper entitled, "Notes on a Method of Obtaining Rapid Healing in cases of Acute Abscess." The method is based on the belief that wherever all the pus and débris could be removed from an abscess cavity and the re-collection of dead contents to act as a culture medium could be prevented practically primary healing would take place. The method consists in (1) surgically cleaning the skin about the operation area; (2) making an incision large enough to allow the finger (covered with gauze) to be introduced, with which the wall of the cavity is carefully rubbed clean and smooth; (3) packing the cavity tightly with disinfectant gauze; (4) first dressing after 48 hours, packing being removed and not reapplied but a simple gauze and wool external dressing fixed on with tight bandage; and (5) wound treated now as if simple incision. No further discharge takes place and dressing need only be done once in four or five days. Mr. Phillips's illustrative cases included glandular abscesses in the thigh and beneath the sterno-mastoid, abscesses in puerperal pyæmia, loculated mammary abscesses, ischio-rectal abscesses, and others.—The paper was freely discussed and Mr. Phillips replied.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on May 1st, Dr. W. Langdon Brown, the President, being in the chair.—Dr. Alexander Morison read a paper concerning the Nature of Heart Pain. He discussed the various theories that had been put forward to explain angina pectoris and he described the post-mortem conditions that had been found in fatal cases. He explained the phenomena of the attack and the causation of death. He concluded that angina pectoris or cardiac pain was a symptom of painful stimulation impressed upon the nerves of the heart or on the vessels immediately leaving it or running through it, which was originated by more conditions than one. It might be due to muscular spasm or to cramp causing pain much as it did in the muscles of the leg in the somatic division of the sensori-motor nervous system, or to inflammatory or degenerative changes in the vessels near or in the heart which exposed or irritated the nervous structures in the vicinity of such changes or, in similar cases, to actual changes in the nervous endowment of the organ.—Dr. David Ross showed a man, aged 30 years, with a new growth pressing on the right subclavian vein and the neighbouring lymphatics and causing marked solid œdema of the chest wall, the shoulder, and the arm. Six and a half years ago he had had a large round-celled sarcoma removed from the outer side of the right ankle. Dr. Ross also described the treatment of swallowed foreign bodies by the administration of cotton-wool and related a case in a boy aged three years.

THE summer session of the North-East London Post-Graduate College will open on May 11th. Arrangements are in progress for a vacation course to be held in September next.

Reviews and Notices of Books.

The Thirteenth, Greatest of Centuries. By JAMES J. WALSH, M.D., Ph.D., LL.D. New York: Catholic Summer School Press. 1907. Pp. 436.

WE have read Dr. Walsh's book with great interest and as he himself says in his preface that there may be errors in detail in his pages, we are sure that he will not mind our commenting upon some of these in the hope that when a second edition is called for, as it ought to be, he will see fit to revise his text.

The thirteenth century was, if not the greatest, at least one of the greatest periods of human thought. In the various forms of art, especially architecture, in literary activity, in the lives of men of extraordinary intellectual power, in a burning desire for the welfare of the human race as exemplified by missionary activity and the rise of the two great orders of the Dominicans and Franciscans, it stands out like some great mountain peak above the plain. But the activities of the century did not spring into birth as novelties. They were extensions of what had gone before. And here we think that Dr. Walsh, like the Player Queen in *Hamlet*, "doth protest too much," for the impression which his book gives is that the manifold activities of the thirteenth century were the product of that century and that they were in the main ecclesiastical. For instance, on p. 21 he says, "While the universities, as is typically exemplified by the histories of Bologna and Paris, and even to a noteworthy degree of Oxford, grew up around the cathedrals. ......" This is too wide a statement. The University of Paris undoubtedly did grow out of the Cathedral School, but Bologna grew from a society of students of law who were attracted by teachers of law such as Pepo and Irnerius.

As for Oxford, the beginnings of which University are somewhat nebulous but which probably took its rise in the expulsion from Paris of "alien scholars," it cannot be said that the University grew up around the cathedral. To begin with, there was no cathedral at Oxford until 1542. The cathedral church of the diocese in which Oxford was situated was Lincoln, more than 100 miles away. It is true, however, that the Chancellor of Oxford was the Bishop's delegate.

Again, Dr. Walsh in his third chapter, which deals with the studies of mediæval students, is rightly anxious to show that scholastic teaching was not mainly concerned with hair-splitting subtleties. He lays stress on the fact that St. Thomas Aquinas taught the doctrine of the conservation of matter and energy. "The truth itself, however, had been reached by this mediæval master mind, and was the subject of his teaching to the University students of Paris in the thirteenth century." He imples, it would seem, that St. Thomas arrived independently at this fact. No one will deny the vast intellectual powers of Aquinas, yet it had been taught long before by Lucretius and his predecessors. It is fair to state, however, that Dr. Walsh says on p. 40 that the views as to the ultimate constitution of matter recently put forward by Sir Oliver Lodge and others had been taught by the schoolmen who had adopted them from Aristotle. It may be noted in this connexion that a modern observer, M. Gustave le Bon, holds that energy is not indestructible.

On p. 337 Dr. Walsh claims that it is to Innocent III. that we owe the modern city hospital as we have it at the present time, yet on the following page he says that Innocent founded his hospital on the model of the one then existing at Montpellier. Dr. Walsh allows that St. Bartholomew's Hospital in London had been founded at the beginning of the twelfth century as a priory to take care of the poor and ailing, "but at the beginning of the thirteenth century it became more frankly a hospital in the modern sense of the word." Now St. Bartholomew's was always a hospital. In fact, the hospital was founded before the priory. Moreover, the statutes of the hospital at Angers which was founded in 1175, and was therefore be it remembered under the English Crown, give directions for the sick to be sought out and admitted for treatment.

In his chapter on the great Latin hymns (Chapter XII.) Dr. Walsh in his zeal for his favourite century is led into looseness of expression. He says that most of the great Latin hymns were composed during the thirteenth century and a few of them shortly before it. He then goes on to say that these hymns were sung by the whole congregation and that it seems probable that "people went to church during the thirteenth century more than 100 times a year." This is quite true, for besides attending mass on Sundays and on various other feast-days an English layman was supposed to attend evensong on Saturdays and "uht song" (matins) on Sundays as well.[1] But Dr. Walsh goes on to say, "Twice a week then at least there was the uplifting cultural influence of this congregational singing of wonderful hymns that are among the greatest poems ever written and that belong to literature of the very highest order." The hymns to which Dr. Walsh specially *refers—namely, Dies Irae, Stabat Mater, and the* Pange Lingua of St. Thomas Aquinas—were what is technically called Proses and were only sung on special occasions. Dies Irae was sung at Requiem Masses, Pange Lingua on Corpus Christi, and Stabat Mater on the Friday in Passion Week. There were, of course, many other Proses but they were mostly of much more ancient date than the thirteenth century, and we are by no means so certain as is Dr. Walsh about the congregational singing.

We are quite in accord with Dr. Walsh's enthusiastic admiration of the Latin hymns, only we protest against his assumption that the finest were the product of the thirteenth century alone. With the exception of the Dies Irae, which, in subject, diction, rhythmical and literary skill, stands, perhaps, on a plane by itself, many of the earlier hymns are equal to any of the thirteenth century. Take, for instance, the "Veni Redemptor Gentium" of St. Ambrose, the "Vexilla Regis" and "Pange Lingua" of Fortunatus, and the Palm Sunday Hymn of Theodolphus which commences "Gloria Laus et Honor, Tibi sit Rex Christe Redemptor."

Finally, we must refer to a few slips which are evidently due to incomplete revision. On p. 63 "Anstey's Mon. Acad." should be "Mun. Acad.," the full title of the book being "Munimenta Academica." On p. 196 the name Haydn is misspelt Hayden and on p. 267 the Rev. Augustus Jessop is called "a non-conformist clergyman in England." Dr. Jessop is the rector of Scarning, Norfolk.

We have given much space to this work and have pointed out its failings, with an earnest hope that as it contains much good work, and is evidently written by one who has tried his best, it may be revised for a second edition. The thirteenth century is so great an epoch that it does not need the attribution of matter to which it can lay no claim. "Vixere fortes ante Agamemnona," and although the art, the intellectual activity, and the enterprise of the century were remarkable they were not new departures. To take one other point. Missionary enterprise and exploration were much to the fore, especially in the East. Yet as early as the tenth century the great Nestorian Church had an organisation, although in formal heresy, which stretched from Asia Minor to China.

The Major Symptoms of Hysteria. By PIERRE JANET, M.D., Professor of Psychology in the Collège de France and Director of the Psychological Laboratory of La Salpêtrière. London and New York: Macmillan and Co. 1907. Pp. 345. Price 7*s.* 6*d.* net.

THE study of hysteria has, for a time, gone out of fashion in England. The rising generation is perhaps attracted by the more tangible results of bacteriology, and possibly the older generation is beginning to think, as Lord Kelvin is reported to have said in reference to certain points in astronomy, "There are some things we do not, and never shall, know." Many foreign observers, however, chiefly among psychologists and alienists, have devoted a great deal of attention to hysteria. In former times hysterical phenomena were regarded as supernatural, if not due to wickedness or sham; later they were attributed to some "physiological or dynamic change in the brain," as Charcot expressed it. In the present day many observers, particularly among the psychologists, have come to the conclusion that all hysterical phenomena arise entirely within the mind of the patient—in short, that they are ideogenic in origin. The book under review is by one of the ablest exponents of the psychic view and is really an abridgement of the author's larger work, entitled "L'État Mental des Hystériques," published in 1893. Dr. Pierre Janet was one of the late Professor J. M. Charcot's pupils, and it is worthy of note that he thinks M. Charcot "sought the general laws" which govern hysteria "too much in the physiological domain, which led him into a certain number of regrettable errors" (p. 17).

---

[1] Rock: Church of our Fathers, vol. iv., new edition, 1904.

The work under review is in English and consists of 15 lectures delivered before the Medical School of Harvard University. The title of the book appears unfortunate, for nobody knows precisely, and Dr. Janet does not attempt to inform us, which are the major symptoms of hysteria and which the minor. Nor does the title describe the contents of the book which deals only with one aspect, the psychological aspect, of hysteria as a whole. The work treats of the psycho-pathology of hysteria. The author states in the first lecture that pathological psychology is more easily studied in hysteria than in other diseases, partly because "the patients are easily managed, talk willingly, like to be observed, and easily lend themselves to examination," and partly "because it is only among hysterical patients that hypnotism is to be found in any marked degree." It is very doubtful, according to Bernheim, Lloyd Tuckey, and others, whether this latter statement is strictly accurate. There is no doubt, however, that the Salpêtrière School has rendered some service to science by endeavouring to bring hypnotism within the boundaries of scientific observation and utilising it for the purpose of studying morbid psychology. Dr. Janet considers that hysterical phenomena are of the nature of an auto-hypnotism, a mental abstraction, or a diminution of certain fields of consciousness. To use his own words, "Hysteria is a form of mental depression characterised by the retraction of the field of personal consciousness and a tendency to the dissociation and emancipation of the systems of ideas and functions that constitute personality." As an illustration, his observation may be mentioned that ... patients affected with marked hysterical ... number measured by the perimeter retraction of the visual fields deduct... running about and nevertheless have no difficulty ... most com... they can avoiding obstacles and in insufficient d... playing ball, ...e to hurr... patient read with ease in a way that a illustration glaucomatous ...nal nervous with a similar retraction cannot do. ...inal cases. This observation leads him to the inference that ...concluded hysterical patients must ...osing retain a *subconscious* power of visual perception, and that ...ional their amaurosis is due to a retraction of their field of ...ral *conscious* perception. Dr. Janet considers that somnam- ...tied bulism (*defining a somnambulist as an individual who thinks* ...die *and acts while he is asleep) is the most constant symptom of* ...d *hysteria, and with deference to his translator we would* Mr ...o *suggest automatism as a better word than somnam-* the ...ng *bulism and as expressing a characteristic that is certainly* die ...he *common among hysterical patients. Dr. Janet discusses* nu ...al *many different varieties of somnambulism* ... the ...lar *personality*, ...

an instance of the dissociation which plays such a large part in the author's view of hysteria the outgoing impulses which start in the ideo-motor centres of the brain and result in movement of the voluntary muscles may be mentioned. Every voluntary movement is a complex of the several muscles employed, and this complex, says Dr. Janet, becomes dissociated; the various ideo-motor impulses concerned become dissociated from one another and from the rest of consciousness.

Other mental characteristics of the hysteric are suggestibility and an exaggerated absent-mindedness. The author contends that suggestibility is a constant feature of the hysterical character, and he discusses very fully the meaning of the term suggestibility and defines it as the complete development of an idea without any "participation of the will or of the personal consciousness of the subject." In a normal individual an idea becomes manifest physically when the subject consciously acts in accordance with his idea. Thus the idea of walking is formed and the subject's conscious desire leads him to move his limbs and walk; his will and personality enter into the action. With the hysterical patient, on the contrary, the physical actions due to "suggestion" are executed subconsciously.

Dr. Janet's view is that all hysterical symptoms and manifestations are capable of a purely psychological explanation. Many of his explanations are ingenious and are as clearly reasoned as such abstruse topics can be; so clearly that the general reader can in nearly every case follow them. But we rise from a perusal of this work with a feeling, first, that his field of observation and inquiry has led him to take too narrow a view of hysteria and hysterical disorders; and secondly, that no one theory is capable of explaining the occurrence of all varieties of hysterical disorder. Undoubtedly psychology may explain a great many of these affections, but there are others, such for instance as attacks of palpitation, visceral manifestations of various kinds, and the *œdème bleu* of Charcot in which the explanation can only be sought in other parts of the nervous system. But we cannot help feeling also that the English-reading public are much indebted to Dr. Janet for having placed before them this clear and masterly review of a most difficult subject.

Diets in Tuberculosis: Principles and Economics. By NOEL DEAN BARDSWELL, M.D. Edin., M.R.C.P. Lond. & Edin., F.R.S. Edin., Medical Superintendent, King Edward VII. Sanatorium; and JOHN ELLIS CHAPMAN, M.R.C.S. Eng., L.R.C.P. Lond., Medical Superintendent, Coppins Green Sanatorium. London: Henry Frowde, Oxford University Press; and Hodder and Stoughton. 1908. Pp. 164. Price 6s.

THIS volume forms one of the Oxford medical publications. The authors have succeeded in producing an interesting treatise, for although the chief theme is a discussion of the most suitable diet for patients suffering from pulmonary tuberculosis, a secondary but equally important consideration is entered upon—namely, the economics of diet. As is pointed out in the preliminary remarks, it is of no use telling a consumptive working man earning 25*s.* a week and with a wife and family to keep to take three pints of fresh milk and plenty of meat and butter daily. Some precise information as to how he might provide himself with an adequate ...t for 8*d.* a day would be far more useful.

...he scope of inquiry decided upon by Dr. Bardswell and ... Chapman resolved itself into an attempt to determine ...e following points: (1) the best principles upon which ...etaries for consumptives should be constructed; (2) the ...tritive value in terms of proteid and total calorie value of ...o diet which is suitable for the treatment of the average ...sumptive, in short, a standard diet; (3) the best lines ...on which such an efficient dietary can be economically constructed for ... and (4) the minimum cost at which a suitable dietary can be bought retail. Inquiry carried out on these lines suggested a further series of observations upon: (1) the comparative nutritive and economic values of various foodstuffs; and (2) the comparative value of proteid from animal and vegetable sources in the dietetic treatment of consumption.

An elaborate series of investigations was made the results of which are recorded in this work and which may be studied with advantage. One of the points considered concerned the advantages and disadvantages of treating consumptives with very large diets. In the case of patients who have good constitutions, and especially good digestions, continued high feeding may produce no permanent, and indeed little or no temporary, ill effects, except perhaps some dyspnœa due to excess of body weight. In many instances, however, and notably in the case of patients with naturally weak digestions and in those who continue the high feeding for a long time after the normal body weight has been considerably exceeded, the taking of a very large diet is attended with serious disadvantages. The authors point out that one of the earliest symptoms is failure of appetite, amounting to a positiv loathing for food, usually associated with flatulent dyspepsia. The conclusion at which they arrive on this point is that the most satisfactory diet is one which represents only a moderate increase upon the diet suitable for any particular patient when in normal health.

Investigations were made as to the value of meat-free diet for patients suffering from pulmonary tuberculosis. If the case is an early one and the digestion is good then Dr. Bardswell and Mr. Chapman maintain that proteid from vegetable sources is just as valuable from a clinical point of view as proteid from animal sources; but if the disease is advanced, the digestion poor, and the appetite capricious great difficulty may be found in taking the meat-free diet and the proper amount of such diet could probably not be taken. When economy, however, is an object the necessary proteid in a dietary should be given at least in part in the form of vegetable proteid.

The remarks on the economics of diet are interesting and instructive. The free use of bread and pulses is especially advised. Some of the conclusions arrived at are founded on only a few cases and possible fallacy is fully acknowledged, but, nevertheless, the investigations are certainly suggestive and much advantage might be gained in instructing the patients in the sanatoriums for the working classes as to the form of diet which is most likely to possess the required nutritive power at the lowest cost.

The Medical Annual: A Year-book of Treatment and Practitioners' Index. 1908. Twenty-sixth year. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. Bristol: John Wright and Co. Pp. 853. Price 8s. 6*d*.

THE twenty-sixth volume of the "Medical Annual" affords evidence of the large amount of practical and progressive work which is being accomplished in connexion with medical science. On glancing through the pages of this volume the reader is at once struck by the thoroughness with which the records have been made by the various contributors.

As in previous years the work contains a few short essays by various authors on subjects which have particularly attracted attention during the past year. Dr. J. G. Emanuel, physician to out-patients, Queen's Hospital, Birmingham, writes on opsonins and vaccines and gives a clear account of the technique which is required for estimating the opsonic index. Dr. Ernest Young contributes an excellent article on the value of fæcal examination in chronic diseases. He describes the method of examination, the "trial diets," and the macroscopical and microscopical appearances which may be noted and the deductions which may be drawn from them. Professor Victor Schmieden (Royal Surgical University Hospital, Berlin) writes on treatment
and indicates the conditions for w
Dr. E. R. Morton (in charge of electrica
Hospital) describes the latest deve
therapeutics and electro-therapeutics,
attention to the orthodiagraph. The main
"Annual," however, is occupied by the "Dict
Treatment" which contains a mass of valuable and practical information, the various subjects being arranged alphabetically.

Dr. R. W. Philip (Edinburgh) writes on tuberculosis and comments on Calmette's ophthalmic reaction with tuberculin. He is of opinion that the test is delicate and trustworthy, and that it is of ready application in the case of irritable, excitable children where other methods of diagnosis may be interfered with. He has found it of particular value in the separation of a number of cases in which there was difficulty of diagnosis between tuberculosis and rickets. Mr. E. Hurry Fenwick makes some interesting observations on benign enlargement of the prostate and maintains that the best results obtained by prostatectomy have been in those patients who have used a catheter for years and in whom the prostate is enormous. He does not advise prostatectomy in cases in "which the hardness of carcinoma has so affected the capsule that it can be detected with the finger."

The present number of the "Medical Annual" well maintains the high standard which has characterised its predecessors.

London Churches, Ancient and Modern. By T. F. BUMPUS. London: T. Werner Laurie. First Series. With 30 Plates. 1908. Pp. 422. Price 6s. net. Second Series. With 33 Plates. 1908. Pp. 402. Price 6s. net.

THERE are so many associations, historical and otherwise, attaching to the churches of London, and in a special degree to the ancient churches, that a book about them such as this, intelligently written and carefully compiled, cannot fail to be interesting. But of all the ancient churches in London perhaps the most interesting to the medical man is that of St. Bartholomew the Great, West Smithfield. For this magnificent fragment of Norman and Early English architecture is the sole remaining portion of the Priory which was founded by Rahere as an adjunct to the great hospital which he founded one or two years before. All that was left of the church after Henry VIII. and his creatures had had their way with it was luckily spared by the Great Fire, an event which destroyed many a notable building but which nevertheless effected a necessary clearance of an insanitary area which afforded ample scope for the ravages of the Plague. Rahere, the founder of the hospital and the Priory, was, like so many other great men, a curious mixture of the imaginative and practical qualities of mind. Having founded the hospital, he was led by a vision of St. Bartholomew to found the Priory as well, and for some 800 years the church and the hospital have stood as a monument of the charity of the citizens of London. Rahere's dream is the subject of one of the pictures painted by Hogarth (who was baptised in St. Bartholomew's) which he presented to the hospital.

Another old City church—*Cripplegate*—also has medical associations, for it is the successor of a church which, according to Camden, adjoined a hospital for lame people and was therefore dedicated to St. Giles, the patron of cripples; while another medical link between the present and the past is that at the suppression of the Hospital of St. John the Baptist in the Savoy the beds, bedding, and other furniture were given to Bridewell and St. Thomas's Hospitals.

Among minor items of medical interest is a justly appreciative notice of Mr. Robert Brett, the well-known Stoke Newington surgeon, who was so instrumental in promoting the building of the Haggerston churches. Mr. Brett was churchwarden of St. Matthias's, Stoke Newington (one of the finest of Butterfield's churches), and another medical man, Dr. Belcher, was the first vicar of St. Faith's which was originally a daughter church of St. Matthias's. Mention is also made, in connexion with St. Michael's, Highgate, of the kindness of Mr. Gillman, a local surgeon, in sheltering the poet Coleridge under his roof, but we may remark, in passing, that the kind-hearted surgeon in so doing was only paying the same compliment to literature that Dr. Johnson was paying to medicine when he befriended in a similar manner a necessitous practitioner. The note about Oliver Goldsmith, in the description of the Temple, also reminds us that that erratic genius once practised medicine for a short time in Southwark. It is to be hoped, by the way, that his chambers in Brick-court will be spared the fate of the adjoining house which has just been condemned as an unsafe building.

But to the man who knows his London, as Besant knew it, every church—nay, every street—is crowded with memories either of some great name or some great event. Thus, St. Giles', Cripplegate, recalls Milton and Oliver Cromwell; All Hallows' Barking, Archbishop Laud and Bishop Fisher of Rochester; St. Olave's, Hart-street, Pepys; St. Andrew's, Holborn, Chatterton and Lord Beaconsfield; St. Clement Danes, Dr. Johnson; St. Dunstan in the West, Izaak Walton; Chelsea parish church, Sir Thomas More; and St. Anne's, Soho, Dr. Croft, the reputed composer of the noble psalm-tune, "St. Anne," which, by the way, is such a favourite in England that Bach's magnificent fugue in E flat is commonly, but erroneously, called the "St. Anne" fugue simply because it opens with the same notes as those that begin the English tune. By an interesting coincidence St. Anne's is nowadays famous for its *cultus* of Bach. There are besides many other churches with historical associations which we have no space to enumerate.

The disquisitions on the various architectural styles are skilfully written; and the author does full justice to the consummate genius of Wren and waxes excusably enthusiastic over his steeples which, both as to their individual beauty and their grouping, are priceless ornaments to the metropolis. He also severely criticises the so-called "restoration" of some of Wren's churches and he is very informative about the revived Gothic churches and their architects. The odds and ends of information, too, are instructive and sometimes amusing, and the particulars are brought up to date. The illustrations are very fine and the work altogether, either as a book of reference or as literature, merits the highest praise.

Guide to Diagnosis in Diseases of the Throat, Nose, and Ear. By DAN MCKENZIE, M.D., C.M. Glasg. London: Rebman. 1908. Pp. 294. Price 5*s.* net.

THIS small work is meant as an aid or guide to diagnosis in diseases of the throat, nose, and ear. There is also a chapter on notetaking and general semeiology, from which we learn amongst other things that "everyone has his own pet mirror" and that hand mirrors are "palmed off on unsuspecting and inexperienced men whenever possible." It may be wondered why the morality of the instrument maker is placed so low, indeed, why it is mentioned at all. Dr. McKenzie alludes to a method of estimating the relative patency of the nasal passages by the use of what he terms Wingrave's spiragraph; if for the sake of accuracy alone the credit of this simple contrivance belongs to Sandmann of Berlin who wrote on this matter in 1893.

Besides the main heads this little book contains a chapter on affections of the buccal cavity, which with affections of the pharynx and tonsils occupies 41 pages. As an example of the assistance afforded, speaking of diagnosis, we give that presented by Dr. McKenzie to his readers *apropos* of necrosis of the jaw: "The symptoms are those of abscess-formation, with persistent sinuses after the abscess is opened. Probing will reveal bare bone." And again in tumours of the hard palate a list is given of which some "may occur" and others are "usually due to extension." In diagnosing antral suppuration by means of the use of Lichtwitz's cannula Dr. McKenzie recommends blowing out the pus by means of a Politzer's bag. This might be a safe procedure in skilled hands but is much too liable to cause emphysema in the case of the unskilled.

This work should be of use and assistance to clinical assistants and post-graduate students who are studying diseases of the nose, throat, and ear, as affording good guidance in the investigation of patients, but it will be advisable for Dr. McKenzie to revise his next edition with great care.

LIBRARY TABLE.

A Text-book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College; Physician to the Medico-Chirurgical Hospital, Philadelphia. Illustrated. Eighth edition, thoroughly revised. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 1317. Price 24*s.*—This work is intended to introduce the student to the present state of knowledge of the practice of medicine in general and of the diagnosis, differential diagnosis, and treatment of disease in particular. That the book has reached an eighth edition, although the first was only published in 1897, is sufficient proof that the efforts of the author have met with the success which he deserved. The present edition has been critically revised throughout with a view to bring it into consonance with the results of modern medical research. The main features and qualities which characterised the former issues have been preserved, the practical phases of diagnosis and treatment receiving especial attention. The animal parasitic diseases have been rearranged and grouped together. These affections have been thoroughly investigated during recent years and many important results have been achieved, more particularly in relation to prophylaxis. The revision of this section by Dr. Anders has necessitated the rewriting of the articles on ankylostomiasis, dracontiasis, trypanosomiasis, and beri-beri. New articles appear on parasitic infusoria and febrile tropical splenomegaly. Among other subjects newly discussed in this edition we notice aplastic anæmia, the use of the Roentgen rays in leukæmia, polycythæmia and cyanosis with splenic tumour, Stokes-Adams disease, Vincent's angina (which has escaped introduction into the index), abortive pneumonia, chronic appendicitis without preceding acute attacks, intestinal auto-intoxication, and senile dementia. The remarks on these conditions are for the most part very brief but nevertheless the observations on differential diagnosis and treatment are adequate. Throughout the work the differential diagnosis has in many instances been tabulated, a procedure which will be found of value for purposes of reference. This text-book is certainly a good one for both students and practitioners although it possesses no marked superiority over others published in America or in this country.

La Neurasthénie: les Vrais et les Faux Neurasthéniques. By Dr. BENI-BARDE. Paris: Masson et Cie. 1908. Pp. lxv.–435. Price 8 francs.—Many men write one or two medical books, and some write three or four, in a lifetime. But Dr. Beni-Barde has completed 13 books since 1866; and he proposes to write four others, of which the titles are given in the front of the present work. If the other books be as complete compendiums of current knowledge as the one under review the author must possess an unusual power of reading and assimilating the thoughts of others. This work contains a summary of nearly all that is known about neurasthenia in France at the present time, but it makes only scanty reference to the views of contemporary German and English writers on the subject. Different examples of neurasthenia, numbering no fewer than 158, are considered in Chapters IV. to XV. In the final chapter there is an excellent summary of the views of past writers on neurasthenia. At the end of the work, in lieu of the usual "Table des Matières" found in French books, there is a summary of contents which runs to 65 pages, so that the reader may conveniently obtain almost all that he desires from its perusal. Abroad observers lean rather to the view that neurasthenia is a psychosis and they sometimes adopt the term "psychasthenia" to express the disease, although in reality this term only expresses the mental element of the neurasthenic state. The author of this work comes to the conclusion that "hydrotherapy and psychotherapy unite to form a therapeutic concord which must be considered the most beneficial and efficacious anti-neurasthenic treatment."

Egypt and How to See It, 1908. Illustrated by A. O. LAMPLOUGH. London: Ballantyne and Co. Pp. 208. Price 2*s.* 6*d.*—This is a handy little guide-book with coloured pictures which aims at indicating what is most worth seeing in Egypt and how it may be seen with the least expenditure of money and trouble. It is brightly written, erring occasionally on the side of exuberance, as in the description of the coaling at Port Said, which is described as "a very inferno of haste and efficiency." The book has useful appendices giving time-tables and other variable information, and a new edition will be published annually with this section corrected for each season. The illustrations are delicate examples of three-colour printing.

A Guide to Sick Nursing in the Tropics. By ANDREW DUNCAN, M.D., B.S. Lond., F.R.C.P. Lond., F.R.C.S. Eng., Lecturer on Tropical Diseases at Westminster Hospital Medical School and at the London School of Tropical Medicine. London: The Scientific Press, Limited. 1908. Pp. 162. Price 2*s.* 6*d.*—This little book fills a real gap in nursing literature and deserves a wide popularity amongst nurses working in tropical countries. It is apparent that its contents are frankly "lectures," and we think a little careful editing would increase their attractiveness, although this suggestion is made not in regard to what the author has to say but to his manner of saying it. Another criticism which some might make is that in several chapters the book tends to overrun its purpose and to become a guide to tropical medicine rather than tropical nursing, questions of etiology, symptomatology, and treatment being given more prominence than is received by actual nursing details. However, it is a hard matter to strike the *via media* in a work of this nature and the expositions of the etiology of various tropical infective diseases are extremely valuable, for they cannot fail to equip a thinking reader with an intelligent appreciation of the principles underlying the prophylactic measures which the author describes with clearness and authority. In these sections his enthusiasm for his subject is plainly manifest. We have found the instruction given throughout the lectures thoroughly trustworthy and have been especially impressed by the chapters on cholera, enteric fever, and malaria. Indeed, the book is well worthy the attention of a student "up for his final" in medicine. When he has mastered it thoroughly he will find himself well grounded in tropical medicine. The nurse who has done so will realise that the conditions of her work in the tropics are very different from those at home. Many little practical details are given with a view to her own comfort and safety no less than her patients'. Dr. Duncan has founded his book on a wide Indian experience but he includes African diseases in its scope. In an introductory chapter as to the nurse's "qualifications for the tropics" we are surprised that he has omitted to mention the advantages offered by membership of Lady Minto's Indian Nursing Association.

JOURNALS AND MAGAZINES.

The Bristol Medico-Chirurgical Journal.—In the March issue is published the fourth annual Long-Fox Lecture, delivered by Dr. Patrick Watson Williams, on the subject of Suppurative Disease in the Nose and Ear. Many useful diagrams are given illustrating operations on the nasal sinuses. Dr. D. S. Davies and Dr. I. Walker Hall write on typhoid-carriers and Mr. James Swain on operative interference in cancer of the pancreas: this is almost necessarily palliative and consists in some procedure of the nature of cholecystenterostomy for the relief of jaundice. Mr. C. Hamilton Whiteford records a case of successful treatment of spreading peritonitis by drainage, the Fowler position, and rectal instillation of saline solution; and Dr. David A. Alexander one of abdominal fibroma simulating splenomegaly.

The Birmingham Medical Review.—In the March number of this review Mr. Bernard J. Ward gives some statistics as to the immediate and remote results of suprapubic prostatectomy by Freyer's method. 107 cases form the basis of the report and the results are very satisfactory; the mortality of the operation, which definitely tends to fall as experience increases, may be put at about 10 per cent. The after-results are also excellent. Mr. F. Victor Milward writes on the diagnosis and pre-operative treatment of non-penetrating injuries of the abdomen and discusses the indications for laparotomy.

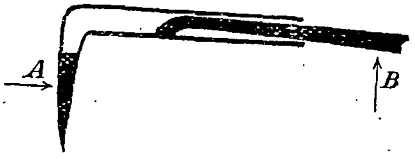
The Dublin Journal of Medical Science.—Two interesting papers on renal disease are published in the March number of this journal, one by Dr. J. Magee Finny on the prognosis and treatment of nephritis and the other by Dr. H. C. Earl on the pathology of this condition. Dr. Finny emphasises the great value of bleeding in some cases of uræmia. Mr. A. E. Wynne records two cases of nervous disease due to congenital syphilis, the manifestations being convulsions and paralysis, of paraplegic and hemiplegic type respectively. In the April number the Registrar-General for Ireland, Sir Robert E. Matheson, gives an account of the Tuberculosis Exhibition in Dublin (1907) and of the lessons to be learned from it. Mr. W. J. Greer describes the microscopical appearances of the viscera in two cases of gastro-jejunostomy for non-malignant disease, the paper being illustrated by photo-micrographs. He concludes that "though it is possible that [as a result of the operation] there may be an arrest of the original disorder, there does not seem to be any return to normal histological structure." Dr. G. Allan Crowley discusses some points in the diagnosis of scarlet fever. He assigns the septic cases to the presence of staphylococcus pyogenes, not, as has been supposed by other observers, to that of the streptococcus.

The Edinburgh Medical Journal.—In the April issue Dr. L. C. Peel Ritchie narrates some observations on the use of inoculations of bacterial suspensions. He does not appear to lay much stress upon estimations of the opsonic or, as he prefers to call it, the phagocytic index, but recommends the employment of equal weights of the different bacteria as vaccines, proportionate to the doses of Koch's tuberculin usually injected. Mr. H. Alexis Thomson treats of diverticula of the alimentary tract, with especial reference to those resulting from accessory pancreatic rudiments, one of which is depicted. Dr. Dawson F. D. Turner writes on electrolysis in medicine and surgery, Dr. F. Parkes Weber on a case of angina pectoris with aortitis, probably due to syphilis, and Dr. Alexander Walker on the provision of sanatoriums for the curative treatment of pulmonary tuberculosis among the poorer classes.

New Inventions.

AN INK WRITING-POINT ATTACHMENT FOR DUDGEON'S SPHYGMOGRAPH.

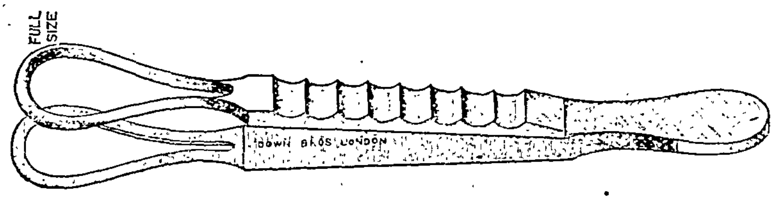
THIS simple little device for obtaining sphygmographic records in ink on a clean white paper may recommend itself to those who have found that the usual method is apt to prove rather a troublesome matter anywhere where the facilities for smoking the paper, varnishing it, and spreading it out to dry are less readily accessible than in hospital practice. It consists in a fine capillary glass tube drawn into the shape of the letter L, the longer limb of which fits on to the writing lever of a sphygmograph, whilst the shorter limb is drawn out to a fine point and serves as a writing point. Several such glass writing points can be carried in the case of the sphygmograph, together with a small bottle of writing fluid, so that the operator may have the choice on each occasion on which the sphygmograph is to be used of taking the tracing in ink on a white paper, or by the usual method on a smoked one. When the former method is to be employed all that is necessary is to select a glass writing point, thrust down its longer limb the end of the writing lever of the sphygmograph, moisten the writing point with a drop of ink, adjust the paper, and start the clockwork. The writing point, which sucks up by capillary force enough ink to write two or three tracings each six inches long, is most conveniently charged by applying to it a paint-brush wet with the ink just before starting the clockwork. After taking the tracing it is wise to drain the writing point on to a piece of blotting-paper so as to avoid clogging of the point. By this method the tracings are taken as a black line at once, thus obviating any necessity of printing the records by photography for purposes of reproduction: it does away with the necessity for soot and varnish, for the tracings are dry as soon as they are written and can be carried away at once in the waistcoat pocket. These writing-points have been made for me from my pattern by Messrs. Down Bros., Limited, 21, St. Thomas's-street, London, S.E.



A, Writing point. B, Writing lever.

J. W. SCOTT MACFIE.
Oxford.

AN IMPROVED TRACHOMA FORCEPS.



OF the two forms of forceps for the removal of trachomatous granules or "sago grains," those of Grady and Knapp, the former may be considered to cause somewhat less bruising but has the drawback, especially in unruly children, of occasionally catching in the eyelid. Messrs. Down Bros. have lately made me an improved pattern with closed ends, which gets over this difficulty with complete success.

Chepstow. J. CROPPER, M.D. Cantab.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on April 30th, Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen having passed the requisite examination were admitted Members of the College:—Robert Alexander Chisolm, M.A., M.B. Oxon.; James Clark, M.D. Aberd.; Thomas Bogie Hamilton, M.B. Edin.; Eardley Lancelot Holland, M.D. Lond., L.R.C.P. Lond.; James Mackenzie, M.D. Edin.; Alexander Manuel, M.B. Lond., L.R.C.P. Lond.; Richard John Morris, M.D. Durh., L.R.C.P. Lond.; and John Norman Walker, Captain, I.M.S., L.R.C.P. Lond.

Licences to practise physic were granted to 103 gentlemen who had passed the required examinations.

The PRESIDENT announced that he had received a letter from the treasurer of the Royal College of Physicians of Edinburgh announcing the death of Dr. Charles E. Underhill, President of that College. It was resolved that a letter should be addressed to the Fellows of that College condoling with them on the loss which they had sustained.

A report was received from the examiners for the Murchison scholarship, and the same was awarded to Edward Leslie Martyn Lobb, a student of Guy's Hospital. The recipient was congratulated by the PRESIDENT. The same examiners (Dr. S. J. SHARKEY and Dr. W. HALE WHITE) moved the following proposition:—

> That a committee be appointed to consider by what means the competition for the Murchison scholarship may be increased.

The motion was carried and the following Fellows were appointed to form the committee: Dr. S. J. Sharkey, Dr. W. Hale White, Dr. Lauriston E. Shaw, Dr. H. P. Hawkins, and Dr. J. A. Ormerod.

The following Members were elected as Fellows of the College: Robert Charles Brown, M.B. Lond.; George Ogilvie, M.B. Edin.; Charles Henry Cattle, M.D. Lond.; John Elliott, M.D. Lond.; Guthrie Rankin, M.D. Glasg.; Theodore Fisher, M.D. Lond.; Robert James McLean Buchanan, M.D. Vict.; Arthur Francis Stabb, M.B. Camb.; William Henry Butter Stoddart, M.D. Lond.; Arthur Latham Ormerod, M.D. Oxon.; Walter Langdon Brown, M.D. Cantab.; Alfred Ernest Russell, M.D. Lond.; Reginald Cecil Bligh Wall, M.D. Oxon.; Thomas Wardrop Griffith, M.D. Aberd.; and Leonard Stanley Dudgeon.

The following communications were received: 1. From the secretary of the Royal College of Surgeons of England reporting proceedings of its Council on April 9th. 2. From the secretary of the Royal College of Surgeons in Ireland thanking the College for its letter and resolution of March 20th. 3. From the registrar of the University of Wales (new Faculty of Medicine) inviting the College to appoint a representative to serve as a member of the Medical Board. The invitation was accepted and it was left to the President to nominate a Fellow to act as a representative. 4. From the secretary of the Society of Arts, giving notice of the award of the Swiney Prize, jointly by the Society and the College, in January next, for the best published work on Medical Jurisprudence.

A report was received and adopted from the Pharmacopœia Committee, which was appointed on Jan. 30th, 1908, in response to an invitation to the College from the President of the General Medical Council to assist in the revision of the British Pharmacopœia of 1898.

The PRESIDENT then dissolved the Comitia.

VICTORIA UNIVERSITY OF MANCHESTER.—The council of the University having decided on the appointment of a second professor in the department of medicine, one of the chairs will be devoted to clinical medicine and the other to systematic medicine. Dr. Graham Steell, now professor of medicine in the University and senior physician in the Royal Infirmary, will hold the chair of clinical medicine, and Dr. George R. Murray, who until recently held the Heath professorship of comparative pathology in the University of Durham, has been appointed professor of systematic medicine. Under the agreement entered into between the University and the Royal Infirmary Dr. Murray becomes on his appointment a member of the honorary staff of the Royal Infirmary. It is expected that he will undertake the duties of the chair in the University at the beginning of next session and at the infirmary when the new buildings are opened.

THE LANCET.

LONDON: SATURDAY, MAY 9, 1908.

General Practitioners and Consultants.

DURING the past few weeks a discussion has been going on in the columns of THE LANCET on the question of the division of the operation fee between the operator and the general practitioner. It has been recognised widely that the fee of the general practitioner who takes a patient to a consultant for an operation is altogether out of proportion to the fee that the consultant charges for the operation which he performs. Inasmuch as the functions performed by the two differ greatly in degree a great disparity is not unreasonable; but it is held by many medical men in general practice that the large amount of the fee charged for the operation may prove, and in fact often proves, a great strain on the finances of the patient, with the result that the fees already owing to the general practitioner cannot be paid. We venture to think that there is a modicum of basis for this complaint and any satisfactory arrangement which could be made in the direction of equalising the amount received by the general practitioner and by the consultant would be deserving of adoption, but the arrangement must be in full accord with the ethics of the profession.

There is a modern practice, happily little heard of in this country, which is known by the name of dichotomy. The word, indeed, is an old word and has several scientific applications, but so far as we are aware the recent special medical meaning has not yet found its way into the dictionaries. This special application of the word arose in France where the practice to which it is applied also appears to have originated. By dichotomy in its medical sense is meant a division of the consultant's fee between the general practitioner and the consultant. The general practitioner takes or sends a patient to a consultant who advises the performance of an operation for which the operator charges, let us suppose, a hundred guineas. The patient agrees, undergoes the operation, and pays the fee. Immediately on receipt of the fee the surgeon sends a cheque for half the amount to the general practitioner who sent the case to him. Sometimes the fee is not divided equally but the exact proportions in which the division is made do not affect the matter. The patient, who pays the fee, knows nothing of this division; he imagines that the whole of the operator's fee is for the operator and the fact that the general practitioner who introduced him to the consultant gets a portion of the fee for the operation is utterly unknown to him. The share of the fee given to the general practitioner is not given for assistance at the operation or for after-treatment but wholly and solely for the introduction of the case. This is dichotomy pure and simple, and if we may believe reports it is a practice very widespread on the continent of Europe and in the United States, and it is rumoured that it is by no means unknown in this country. The essence of dichotomy is that the division of the fee is not known to the patient and this absence of knowledge on the part of the patient would suffice to bring the practice within the scope of the Secret Commissions Act. The influence of dichotomy has been very harmful; it appears to be certain that its tendency is to lead to the performance of unnecessary operations, however excusable it may have been in its origin. Dichotomy can in no wise be defended. It is therefore satisfactory that dichotomy has been condemned in those countries where it is especially rife and it is to be hoped that it will not spread here. We cannot but look upon dichotomy as very much on a level with the receiving of fees from undertakers or instrument makers who have been recommended.

A method has been suggested by Dr. F. W. FORBES-ROSS in the correspondence in our columns which is certainly less objectionable than dichotomy, from which it differs in several important respects. By this method the fee for the operation is divided into three parts, the operator takes two-thirds and the general practitioner takes the remaining third; and in return for this share of the fee he assists at the operation and undertakes a portion, perhaps the major portion, of the after-treatment. So far there is little to distinguish the method from dichotomy, except that certain assistance is rendered in return for the fee, but, and this is most important, the patient is informed of the arrangement made, and this very fact of the knowledge of the patient of the intended division of the fee certainly removes the arrangement from the category of dichotomy. There is a further point on which Dr. FORBES-ROSS insists, and that is that if only a part of the fee can be paid at the time the consultant and the general practitioner must share in the same proportion as if the whole fee had been paid. There is, however, this to be said, as pointed out by Mr. EDWARD DEANESLY, that this third of the fee should be paid directly to the general practitioner by the patient and it should not be paid by the operator after he has received his fee. If the surgeon pays the third to the general practitioner there is always the risk of the transaction not being made clear to the mind of the patient and then the practice falls into the same group as dichotomy. There is another method which is widely adopted and it is one which appears to us to have many points in its favour. The patient is often anxious to know what is the total amount of the expense to which he will be put, and the general practitioner, after consulting the operator, mentions a fee which is to include the operator's fee, his own fee, and the fee of the anæsthetist. The general practitioner receives the fee from the patient and hands to the operator the portion payable for the operation. This is often more satisfactory for the patient and it appears to us to be perfectly ethical. It has certainly nothing to do with dichotomy. Whatever arrangements are made it is essential, as we have already said, that the patient should be informed if any division of fees takes place. The general practitioner is generally in a position to know the amount of fee which will not be oppressive to the patient and yet which will be sufficient to remunerate those who perform and assist at the operation and in the after-treatment.

Scopolamine as an Analgesic.

THIS substance either alone or combined with morphine for some years has been adopted for anæsthetic purposes in several of the continental clinics. Some surgeons have used the method as a means of lessening the quantity of the general anæsthetic which they give to the patient at the time when the actual operation is in progress. Many have tried scopolamine-morphine anæsthesia for surgical work but have found it uncertain and at times insufficient when severe operations had to be undertaken. In obstetric practice, however, analgesia rather than anæsthesia is commonly aimed at and GAUSS has published a number of cases in which the scopolamine-morphine combination has been adopted by him with marked success. Dr. W. AYRES, in a paper read before the Stourbridge District Medical Society, describes the method and the condition which GAUSS has designated "dämmerschlaf" (twilight sleep), and which is characterised by insensibility to painful impressions and complete loss of memory of all that has occurred while the state has lasted. He points out that there have been a number of fatalities under scopolamine and morphine and these he has investigated, coming to the conclusion that they have arisen through the use of untrustworthy drugs.

Commercial scopolamine frequently contains impurities, such as atroscine, a body the therapeutic action of which is not the same as scopolamine. It is also important to remember that scopolamine is obtained from various plants, and although it has not been actually proved to be so it is possible that the samples vary in action according to the source from which they are derived. If this be so it is probably due to the presence of varying quantities of other alkaloids, the commercial scopolamine being in fact a mixture of alkaloids giving varying results. Although therapeutically quite distinct the alkaloidal bodies scopolamine, hyoscine, cocaine, and atropine are chemical isomers possessing the empirical formula $C_{17}H_{23}NO_3$. KOBERT asserted that scopolamine and hyoscine exert practically the same physiological action, but Dr. AYRES points out that the scopolamine derived from scopolia is a mixture of hyoscine and atroscine, and is obtainable in greater quantity from this source than is hyoscine from hyoscyamus. Hence the greater cheapness of the scopolia derivative. Although hyoscine and scopolamine are chemically identical it does not follow even when they are pure that they will give similar physiological effects, and when impure their results therapeutically may be quite discordant.

Dr. AYRES insists upon various points in GAUSS's technique as essential if success is to be obtained and the woman in labour is to fall into the semi-unconscious state which besides affording analgesia insures no memory of pain and complete freedom from the hysterical state which at times is liable to be evinced in parturition. Two separate sterile solutions are used: a 0·03 per cent. aqueous solution of crystalline scopolamine hydrobromide and a 1 per cent. aqueous solution of morphine. The first injection is given when the pains are becoming severe and frequent and should consist of from 1 to 1·5 cubic centimetres of scopolamine solution (= 0·30 to 0·45 milligramme), with 1 cubic centimetre of morphine (= 0·01 milligramme). In half an hour the patient is shown some object—e.g., a pair of scissors; and again after another half an hour she is questioned as to whether she remembers the scissors. If she does not it is assumed that she was in the state of "dämmerschlaf" when shown the object and no further injection is needed until future testing made in each case with a different object to avoid accumulation of sense impressions reveals that the "twilight sleep" is passing off. Before each manipulation the patient is tested and fresh injections are given as the indications appear to warrant them. The subsequent injections consist of 0·5 cubic centimetre or 1 cubic centimetre of the scopolamine solution according as the 0·5 cubic centimetre does or does not produce the "dämmerschlaf" persisting for two hours. GAUSS does not repeat the morphine, since it interferes with the expulsive labour pains. As a general rule, four injections made at the interval of an hour will suffice, although a two or even four hours' interval will prove sufficient to maintain the "dämmerschlaf" until the birth of the child. The total amount of the drug used may be accepted as upon an average 0·75 milligramme, although as little as 0·3 milligramme and as much as 1·2 milligrammes may be required. Great stress is laid upon avoiding all noises (GAUSS stops the patient's ears to prevent the infant's cries reaching her), upon the use of fresh solutions, and upon obtaining the "dämmerschlaf" state by small doses and slowly. Dr. AYRES quoting GAUSS asserts that the usual causes of failure are: (1) forcing the effect by too large and oft-repeated doses which give rise to weak pains, rapid and irregular pulse, hallucinations, excitement, failure of the expulsive power of the abdominal muscles, and asphyxiation of the fœtus; (2) too little time before the birth for preliminary injections; (3) beginning too early in the labour—the pains should return every five or six minutes and last for 30 seconds before the first injection is made; and (4) being induced by the patient's cries to repeat the injections instead of being guided entirely by the memory test.

It has been asserted that this method delays labour but GAUSS's experience does not appear to bear out this contention. Dr. AYRES seems to be satisfied that provided the morphine is given in a sufficiently minute dose neither the uterine fibres nor the abdominal muscles become atonic. The effect upon the mother is stated to be, upon the whole, satisfactory, although the action of scopolamine upon the heart is one with which the accoucheur may have to reckon. To the child, however, more serious results occasionally follow unless the most heedful watch is kept upon the infant throughout the labour and for some days afterwards, since the "dämmerschlaf" of the mother finds its counterpart in a peculiar intoxication in the child. The breathing is extremely slow, cyanosis may appear, and the infant's heart's action is correspondingly hampered. However, as GAUSS's figures show, if the child is properly watched and measures are taken to insure due lung expansion, the mortality is not unduly great. It is unwise, we are told, to adopt GAUSS's method in large maternity hospitals or private practice unless there is ample help at hand to insure attention being given both to the mother and to the infant. Dr. AYRES referred also to Dr. ABBOTT of Chicago who has employed hyoscine hydrobromide, morphine hydrobromide and cactin. We have noticed this combination and need only add that Dr. Abbott's experience has led him to form a favourable opinion of it in his surgical practice.

Nursing in the Paris Hospitals.

The question of efficient nursing in the Paris and in the French hospitals generally has been from time immemorial complicated by religious disputation. It is quite a mistake to imagine that it is only under the Republican form of government that the idea of secularising the hospitals arose. So far back as the year 1505 the Parliament issued a decree dated the 2nd of May of that year placing the oldest of the Paris hospitals, the Hôtel Dieu, in the hands of a commission of eight lay administrators. This was done because of the disorder that prevailed; no accounts were kept and scandals arose between the monks and the nuns who used to manage the hospital. Again, under Louis XIV., and by order of the King, the management of the Salpêtrière, Bicêtre, and Pitié Hospitals was taken away from the priests and handed over to secular officials. Then under Louis XVIII., at a period of monarchical and clerical reaction, by the decree of June 28th, 1819, secular dispensers were appointed instead of the sisters or nuns in some of the pharmacies and in the management and keeping of accounts (*économat*) of the Paris hospitals of La Charité, Saint-Antoine, Enfants Malades, Enfants Trouvés, Necker, and Cochin. In 1833 the Sœurs de la Sagesse were replaced by secular nurses at l'Institution Sainte-Périne, then at the Maison de Santé, the Hôpital des Cliniques, du Midi, and of La Maternité. Therefore, leaving out of consideration other countries such as Germany, Great Britain, the United States, and even Portugal and Russia, the principle of the secularisation of hospitals was admitted, and to some extent practised, before the Republican form of government was definitely established in France. There is consequently no reason why this question should not be decided on its own merits without introducing political prejudices and animosities. If it is wrong, then all political *régimes* have a share in the wrong.

The French law on associations, arising out of the Dreyfus affair, has, however, greatly accelerated the process of secularisation and, of course, the present period of transition occasions many complaints. In another column Dr. J. Dardel of Paris gives voice to some of the lamentations that are the inevitable accompaniment of all changes, even if they be beneficent. Undoubtedly the present state of affairs lends itself to criticism. Dr. Dardel justly complains of the life led by the nurses, of their dirty, dismal dormitories, often situated in garrets, the scanty furniture, and the want of air and comfort. If he will turn to The Lancet of June 13th, 1891, p. 1332, he will find a full confirmation of his assertions. Our Special Sanitary Commissioner then supplied us with an account of the insanitary condition of the Hôpital de la Pitié and M. D. Widhopff, well known for his art contributions to the illustrated press, drew for us pictures of the nurses' garret dormitories. In denouncing this state of affairs our commissioner then said that "it was justly observed by several persons at the hospital that prisoners in a State gaol have much better accommodation than the free and trained professional nurses of the Hôpital de la Pitié." To this, however, we are pleased to add that it was subsequently decided to rebuild this hospital; indeed, we received thanks at the time for having helped to awaken public opinion on the matter and having aided in bringing about this much-needed change. Of course, while they are so badly lodged and cared for it will be difficult to secure the services of a high-class of nurses. But the position is improving and many of the present evils are due to the old system which is now so rapidly disappearing. We are asked, however, what object Paris had in effecting "so sweeping a reform" which Dr. Dardel qualifies as "merely a political move." The object was fully described in The Lancet of Dec. 20th, 1890, p. 1355. We then quoted the decision of the Paris Municipal Council adopted in 1877, which stated that its object was:—

> 1. To secure for the hospitals a staff of nurses who should be more competent, better educated, and who would become good superintendents to control wards in the stead of the sisters belonging to the religious orders. 2. To afford inhabitants of the towns who wish to exercise the profession of nursing means of obtaining thorough professional instruction, so that they might take the place in private families of the sisters who act as nurses. 3. To enable mothers of families to obtain the knowledge necessary for nursing the sick, so that they might skilfully second the efforts of the doctor whenever any of their relatives fell ill.

In keeping with this resolution the first school for training nurses was opened at the Salpêtrière on April 1st, 1878, and another on May 20th at Bicêtre. In 1880 a third school was inaugurated at La Pitié. We gave at the time a full account of the curriculum. To-day, however, the complaint is made that though the technical instruction has borne fruit only a low class of nurses have been recruited whose morality and probity are not above reproach. This is true to some extent, though there is a political temptation to exaggerate the complaints. In any case this grievance is in a large measure due to the system that prevailed when the *sisters were serving* in the Paris hospitals. Much has been said about the wonderful devotion of these sisters and all the unpleasant and hard work which they did in personally tending the sick. This likewise was, to a certain extent, mere romancing for a political purpose. As we pointed out at the time in 1878, before the present secularisation of the hospitals commenced, there were only 485 sisters serving in the Paris hospitals, and there were already 279 secular head nurses or superintendents. The real trouble arose from the fact that these sisters did not change the bed-clothes, did not dress wounds, did not wash and see to the personal comforts of the patients; all the really hard and unpleasant work was left to the 2207 secular under-nurses or servants. The sisters did organise the partition of food, superintend linen, and maintain discipline in the wards. The sisters, in a word, were the matrons, and by monopolising the best positions on the nursing staff destroyed the spirit of emulation and prevented higher-class candidates presenting themselves for this service. Therefore the most incompetent of provincials who could not even speak French served in the hospitals. They were inadequately paid and left as soon as they had acquired enough experience to get better wages elsewhere. But to-day the salaries even of the mere scrubbers and scullery-maids have been raised and attempts are made to improve the social standing and position of those who seek to become trained nurses. Much remains to be done yet. Quite recently[1] our Paris correspondent described the inauguration of a building with two wings at the Salpêtrière, where 75 pupil nurses will each have a private room and live in decent comfort. At the end of two years' training, practical and theoretical, they will, on passing the examinations, be given board, lodging, a uniform like that of English hospital nurses, and £24 a year. These young women will be under the care of a matron, will not be allowed to go out except with members of their own families, and the respectability and moral training which the sisters were supposed to give will not be wanting in this new nurses' college. But, of course, many more such establishments are needed before the evil repute in which the profession of nursing had fallen in France is fully removed. In time it will be realised that sisters no longer block the way to the highest posts in the nursing profession. In time better housing, better uniforms, and better pay will raise the dignity of the calling, and more severe discipline could then be enforced in regard to personal conduct and especially in respect to the acceptance of gratuities. In the olden days when a patient was left to the mercies of some uncouth country girl who was only paid 12*s.* a month wages the friends of the patient naturally offered small sums of money to these servants so that they might try to be more gentle and attentive. On the other hand, the higher and more educated candidates who desired to qualify as trained nurses objected to the society of the poor uneducated women who were willing to do all the dirty work for so little pay. But this state of affairs, which existed when the sisters were supreme, is now altered though the evil reputation which it engendered does not fade away so rapidly. Still, a better time is coming and the evils surviving to-day are less than those that prevailed yesterday.

Annotations.

"Ne quid nimis."

THE CERTIFICATION OF OPTICIANS.

THE Worshipful Company of Spectaclemakers has recently published a syllabus of the subjects upon which those who are desirous of obtaining their certificate of competence in optical work shall be examined. The company is by no means of recent institution. It received a charter from Charles I. in 1629, but was in existence long before that date. The records which were formerly in its possession were probably destroyed in the Great Fire of London. It has a considerable number of members but its total corporate income is only about £1200 a year. The company has a master and wardens with eight assistants, a clerk and an assistant clerk, an interim trade council, and a board of examiners composed of Mr. W. H. E. Thornthwaite, Dr. R. T. Glazebrook, D.Sc., F.R.S., Dr. G. Lindsay Johnson, Dr. Mullineux Walmsley, D.Sc., F.R.S.E., Dr. C. V. Drysdale, D.Sc., and Mr. J. T. Gradon, M.A. Oxon. The company holds three examinations: the first is the preliminary, the second is the final examination in visual optics and sight testing, and the third is the final examination in advanced optics and scientific instruments. The preliminary examination consists of five sections and includes a written examination in arithmetic, algebra, geometry, and trigonometry, a *vivâ-voce* examination in general optics embracing such subjects as light, the laws of reflection and refraction, prisms, the use of the spectrometer, the various forms of lenses, the principle of the ophthalmoscope, optometer, ophthalmometer, perimeter, phorometer, and the mode of using test type and astigmatic chart, a practical examination in the optical analysis of lenses, the marking of edging and of other lenses for setting, centering, and decentering, and, lastly, a practical examination in frame fitting and measurements and in the reading and filling ophthalmic surgeon's prescriptions. Every candidate must have attained the age of 18 years before presenting himself for this examination and must pass it before proceeding to one or other of the two final examinations, for each of which the company grants a diploma. One of these final examinations is upon advanced optics and scientific instruments and the candidate is required to possess a thorough knowledge of the principles of construction of various optical and meteorological instruments such as the camera, microscope, telescope, and barometer, the examination being both written and *vivâ voce.* Up to this point we can only express our admiration of the excellence and completeness of the education which the candidate must have undergone if the answers to questions on all these subjects are maintained at a high level. We should have thought that there was enough in these multifarious departments of knowledge to engross the faculties of the majority of the future spectacle-makers. The second final examination for which the company grants a diploma touches more debateable ground. The title of this examination is "final examination in visual optics and sight testing." It consists of three sections: a *vivâ-voce* examination in visual optics, a written examination in visual optics, and a practical examination in the adaptation of lenses to correct errors of vision. On examining the syllabus of the requirements of the candidates we find that they are in the first place expected to answer questions on lenses, prisms, and frames, to which no exception can be taken. If the optician is to supply lenses ordered by the ophthalmic surgeon he must be familiar with the various forms and combinations as well as with the mode in which they should be mounted. Next, a knowledge of the general structure of the human eye is demanded with an explanation of cardinal points, curvatures and refraction indices of the media, constants and dimensions of the schematic and reduced eyes, and of the angles α and γ, and the identification of parts of the eye in models and charts. All this may be conceded as part of the education of a highly educated optician. The next paragraphs in the syllabus are those to which we demur. We give them in full; and questions on them could, we submit, only be satisfactorily answered by a man who had gone through the ordinary curriculum for a medical degree. "Static and dynamic refraction of the eye. Accommodation and convergence. The movements of the eyeball and muscles employed. The near and far points. The range and amplitude of accommodation and convergence. The course of light through the media of the eye alone and modified by spherical and cylindrical lenses and prisms. Emmetropia, hypermetropia, myopia, astigmatism, anisometropia, aphakia, presbyopia, asthenopia, amblyopia, orthophoria, heterophoria, strabismus, diplopia. The fields of vision and fixation. Stereoscopy. Chromatism of the eyes—tests for the same. Colour vision and blindness." In addition the candidate must be familiar with the ordinary instruments in common use for determining the refraction and muscular balance of the eyes; the optometer, ophthalmoscope, ophthalmometer, phorometer, rotatory prism, and other muscle-testing appliances. In the *vivâ-voce* examination a prominent place is given to *muscle testing.* Our contention is that this final examination covers ground that does not belong to spectacle-makers, however highly educated they may be; that it demands far more, and a different kind of, knowledge than can be obtained from books or than can be deduced from the construction or properties of instruments. Questions put upon this syllabus must either be answered in a very loose and perfunctory manner, in which case the knowledge is useless, or if replied to satisfactorily the candidate is fitted for a medical degree and is endeavouring to evade the other branches of a medical examination and to enter the ranks of the medical profession surreptitiously. Our advice, in view of future difficulties and complications, is that a large portion of the syllabus for the final examination in visual optics and sight-testing should undergo revision and that certain subjects should be withdrawn. The subjects of examination as here laid down if thoroughly mastered would be creditable to a wrangler on the theoretical side and would far and away outstrip him in the mechanical aspect of optical science.

---

[1] See THE LANCET, Jan. 25th, 1908, p. 267.

INFANT MORTALITY IN ENGLAND AND WALES, 1907.

IN connexion with the awakening of public attention to the neglect and waste of infant life in the United Kingdom it is satisfactory to note that the rate of infant mortality in England and Wales during 1907 did not exceed 118 per 1000 births registered. This rate was considerably below the rate recorded in any previous year since the commencement of civil registration in 1837. The nearest approach to so low a rate of infant mortality was 128 per 1000 in 1905. There has, moreover, been a marked decline in the English rate of infant mortality since the beginning of the present century. During the ten years 1891–1901 the mean proportion of deaths under one year to births was equal to 154 per 1000, whereas the mean proportion fell to 134 per 1000 in the seven years 1901–07. There is great difficulty in determining how much of this decline of infant mortality may be attributed to increased care of infant life and to more effective sanitary supervision, and how much may be due to recent favourable meteorological conditions—to lower summer temperatures or to more frequent summer rainfall. It appears that the mean temperature at Greenwich during the summer quarters of the ten years 1891–1900 was 61·9° F. and that the mean annual amount of rain measured during the same quarters was 6·1 inches on an average of 39 days; while in the summer quarters of the last seven years (1901–07) the mean temperature did not exceed 60·9°, and the mean rainfall was 5·8 inches measured on 34 days. Thus an average deficiency of 1·0° in the mean summer temperature during the last seven years has been accompanied by a slight decrease of rainfall, on an average of somewhat fewer days. There appears, therefore, to be no sufficient reason for attributing any considerable proportion of the recent decline of infant mortality in England and Wales to exceptionally favourable meteorological conditions during the last seven summers. The satisfactory fact remains that the rate of infant mortality in England and Wales during last year did not exceed 118 per 1000, was far the lowest rate on record, and showed a decrease of 20·3 per cent. upon the mean rate in the ten preceding years, 1897–1906. Having regard to the recent legislation for facilitating the early notification of births to sanitary authorities, it is interesting to note that in Huddersfield, under the influence of the special system of birth notification, authorised by a local Act, and of exceptionally energetic action by the local sanitary authority, the rate of infant mortality within the borough declined to 97 per 1000 births, and showed a decrease of 28·1 per cent. upon the mean rate in the ten preceding years, against an average decrease of 20·3 per cent. on the whole of England and Wales. This naturally raises the interesting question as to the proportion of the decrease of infant mortality in Huddersfield during last year that may be attributed to the prompt notification of births to the medical officer of health and to the facilities thus afforded for promoting increased care of infant life.

HUMAN INFECTION FROM BOVINE TUBERCULOSIS.

IN his annual report for the year 1907 Dr. J. P. Watt, the medical officer of health of the county of Aberdeen, makes reference to two cases of tuberculous meningitis, which from their bearing on the question of the possibility of conveyance of bovine tuberculosis to the human subject through the infected milk of a cow and from the exhaustive examination carried out by Dr. J. Adams of the Pathological Department of the University in connexion with them appear to be of special interest. Attention was directed to them through a suspicion arising in the mind of the medical attendant as to the second case being one of cerebro-spinal fever. The cases occurred in the children of a farm servant who in May, 1906, had gone to a small farm in the country, which farm was occupied by the tenant only in summer and was managed by a grieve and his wife. This man's family consisted of three girls, aged nine, six, and four years. The milk was obtained from a cow which was the only one on the farm and which had been there for about four years. The cow had a calf but no suspicion seems to have attached to this. The eldest girl died on Jan. 7th, 1907, after an illness lasting three weeks with symptoms of tuberculous meningitis. The youngest was taken ill in the beginning of March and died on the 18th with similar symptoms. As cerebro-spinal fever had by this time broken out in the county it was thought advisable to verify the diagnosis by a post-mortem examination. Tuberculous meningitis was found and a caseous gland in the mesentery. The cerebro-spinal fluid was drawn off aseptically and from it a pure culture of the tubercle bacillus was indirectly obtained. Clinical examination of the cow revealed a nodular mass on one of the hind-quarters of the udder, and the milk itself was found to contain tubercle bacilli. The cow was subsequently killed and a post-mortem examination was made. Extensive tuberculosis was found, especially in the pleura, peritoneum, glands, and udder. From the milk and glands pure cultures of the bacillus were obtained. The bacilli from these and from the cerebro-spinal fluid of the child were then compared and from their microscopical, cultural, and pathogenic characters the opinion formed was that they were both of the bovine type. No family history of tuberculosis was traced either on the father's or the mother's side.

THE RELATION OF SUICIDE TO SEXUAL FUNCTION IN WOMEN.

IN the *Annales Médico-Psychologiques* for March and April of this year Dr. Alexander Pilcz, in a paper discussing the diseased conditions met with in the post-mortem examination of the bodies of persons who have committed suicide, brings forward some interesting facts illustrating the influence of the sexual life on the development of suicidal impulse in women. From the records of the Medico-Legal Institute in connexion with the University of Vienna he has obtained detailed information with regard to 256 cases of suicide by women within the child-bearing period. In 51 of these cases (19·2 per cent. of the series) the women were pregnant, and Dr. Pilcz remarks that this figure is probably an under-estimate, for he has excluded from his list of suicides several doubtful cases in which pregnant women died from phosphorus poisoning; this drug is in popular repute in Vienna as a means of procuring abortion, and most of the deaths from it are doubtless due to its use for this purpose, but it is highly probable that in some of the instances it may have been taken with suicidal intent. The exact stage of pregnancy was noted in 47 cases, 15 falling in the first month, 7 in the second, 7 in the third, 8 in the fourth, 2 in the fifth, 4 in the sixth, and the remaining 4 in the ninth month, so that nearly 60 per cent. of the suicides occurred in the first four months of gestation. This result is, of course, in accord with what has been observed regarding other disturbances of nervous function which are notoriously more frequent and more severe in the earlier than in the later months of pregnancy. Of the cases of suicide by women within the period of active sexual life 36 per cent. occurred at the time of menstruation, this being almost exactly the same proportion as was found by Heller in his smaller series of cases.[1] Dr. Pilcz further ascertained that in two-thirds of the cases occurring during menstruation the cycle was in its initial phase; and it may be observed in this connexion that a similar relation obtains in attempts to commit suicide, which are specially prone to occur at the premenstrual epoch. In 322 cases in which the records gave sufficient information on the point, 71 (21·73 per cent.) were found to present morbid conditions of the genital organs: gonorrhœa and uterine fibroids were the forms of disease chiefly met with.

APRIL'S ABNORMAL WEATHER.

THE appended figures show, in part, the extraordinary weather of last month but they fail to show the abnormal lowness of the temperature for nearly a week towards the end, neither do they differentiate between the measurements of rain and snow. They show enough, however, to prove that the weather was very cold for the time of the year and also that in most localities, especially in London and central and south-eastern England, the divergence from the average during the daytime was greater than at night. During the extra cold period that set in about the 20th the temperature of the afternoons was lower than during a normal afternoon in January in many parts of the kingdom, while in some parts of Scotland and the north-east of England the frost of the nights was more severe than any experienced in those regions so late in the spring since the establishment of the Meteorological Office more than 40 years ago, and in some places more severe than any frost of the past winter. Minimum readings below 20° by the screened thermometer were registered over a very wide area, while at Braemar there was a reading of 10° in the screen and one as low as 4° on the grass. Snow is, of course, often experienced in slight fleeting showers in April in one or more parts of the country and there are records of heavy falls both in the north and south quite late in the month. There is, however, no authentic record of such an abnormal quantity of the wintry element over such a large area of England so late in any April of the past. Had the snow been dry and light instead of wet and heavy, and had it fallen on a dry instead of on a wet soil it would have had an average depth of about two feet over many hundred square miles of the southern half of England. The remarkably sudden change from winter to summer that surprised most parts of England as soon as April had given place to May was almost, if not quite, as abnormal as the preceding cold. Within a week of temperatures lower than those of an average mid-winter, London and the inland parts of England generally were called upon to endure a heat greater than that of an average July and August. In London the whole of the three summer months last year gave but four warmer days than May 1st. The official maximum temperature registered in St. James's Park on May 1st was 75° F. and that on the following day 74°. But just as the human organism was beginning to grow accustomed to summer heat the thermometer went down with a rush to the level of March and the hot sunshine gave place to heavy rains and cold winds.

	Temperature.					Rainfall.				Sunshine.	
	Mean maximum.	Difference from average.	Mean minimum.	Difference from average.	Mean temperature for month.	Difference from average.	Days with rain.	Total fall.	Difference from average.	Number of hours of sunshine.	Difference from average.
	°	°	°	°	°	°	*	Ins.	Ins.		Hrs.
Nairn...	48	−4	34	−3	41·2	−2·9	18	1·09	−0·12	136	†
Aberdeen	47	−2	36	−2	41·7	−2·1	17	1·83	−0·26	154	−1
N. Shields ...	47	−3	35	−3	41·0	−3·2	19	2·63	+1·04	†	†
Scarborough ...	49	−1	39	0	43·6	−1·1	14	2·05	+0·28	127	−19
Yarmouth ...	48	−2	38	−2	42·9	−1·9	17	2·59	+0·95	159	†
Margate	48	−5	40	−1	43·9	−3·0	17	1·60	+0·14	139	−17
Folkestone ...	48	−4	38	−3	43·0	−3·8	12	1·15	†	169	†
Brighton	51	−3	38	−3	44·5	−2·1	14	1·82	+0·13	166	−5
Bournemouth...	53	†	37	†	45·1	†	12	2·68	†	182	†
Torquay	54	†	40	†	47·5	−0·7	14	2·47	+0·12	169	−12
Liverpool	49	−4	38	−2	43·4	−3·2	14	3·38	+1·81	144	†
Manchester ...	51	−1	38	0	44·3	−1·2	15	1·58	−0·48	102	†
Birmingham ...	50	−3	36	−3	42·9	−2·8	15	2·37	+0·50	88	−36
Nottingham ...	49	−5	36	−2	42·5	−3·9	19	2·07	+0·40	117	†
Harrogate ...	48	−3	35	−2	41·4	−2·8	22	2·82	+0·72	121	−39
Bath	52	−3	37	−3	44·5	−1·6	14	2·85	+1·74	158	+16
London	51	−6	39	−1	44·9	−3·5	17	1·93	+0·33	128	+15
Birr Castle (Ireland)	52	−3	35	−4	43·5	−3·1	19	1·82	−0·28	159	+7

* Days with at least 0·01 inch. † No trustworthy average.

ANIMATED PHOTOGRAPHY IN NATURAL COLOURS.

THE kinematograph is now universally recognised as a means not only of amusement but of instruction. We need only refer, for instance, to the article by Dr. H. Campbell Thomson which appeared recently in our columns.[1] Hitherto of course, the reproduction of any colour in a kinematograph projection has been impossible except by the laborious method of hand-colouring the films, and as each picture on the film is only of about the size of a postage-stamp it is obvious that to hand-colour the photograph of a carpet or of a highly coloured insect or bird by hand upon this scale is impossible. An invention has now been brought forward by Mr. G. Albert Smith, F.R.A.S., for reproducing in natural colours photographed objects upon a screen, and a demonstration was given at Urbanora House, Wardour-street, on May 1st. Mr. Albert Smith in his interesting inaugural address gave a rough idea of the theory of his system in the following words:—

> When I show you a wax phonograph or gramaphone "record" and observe that it is a band of music or the voice of a singer, you are aware that it is in reality an engraven record of the complex sound-waves set in motion by these performances, and you know that when the wax tablet or cylinder is placed in a suitable machine these sound-waves can be repeated and the original music reproduced. In the same way, when I show you a small roll of kinematograph film bearing, say, 5000 little photographs, these photographs having *no trace of colour* about them, you are to understand that they carry within themselves, in their long range of tones and half-tones so to speak, a record of the colour-waves received by the lens when the picture was taken, and when this film is run through a bioscope projector fitted with the proper attachment the recorded "colour-waves" are again set in motion and the scene is reproduced to our eyes in its proper colours.

The principle, as we understand it, is as follows. First of all, a film is used which is rendered as sensitive to red, yellow, or green rays as the ordinary photographic film is to blue rays. This is run through a kinematograph camera in the usual way, with the exception that between the film and the lens is a rotating disc part of an annulus which is composed of a green gelatin screen—i.e., blue plus yellow—and another part of the same annulus of an orange red screen—i.e., red plus yellow. The film when developed shows no colour at all but only the ordinary gradations of black and white. When, however, this film is again run through the kinematograph lantern, with the revolving disc between it and the lens, the colour waves are again actuated and the photographs on the film appear upon the screen in colour. The demonstration referred to, though Mr. Smith impressed upon his audience that the invention was yet in an experimental and incheate stage, was of extreme interest. Thus, the photograph of a lady in a white dress with red sash and red roses in her hat came out in very pure colouring, while another photograph of a child dressed mainly in green who held up at intervals a tartan plaid, the tartan containing a great deal of red and yellow, came out equally well. Allowance has to be made for the fact that as the films were taken by daylight and exhibited by the arc light the colours naturally showed some slight deviation from the appearance which they would have presented by daylight. So far as we can see the invention has a promising future before it. It does not appear, however, that it will be of any more value in medicine for the representation of colour changes in disease such as various affections of the skin, pigmentations and the like, than the Lumière process, for, of course, the question of motion does not enter into such cases.

---

[1] "Zur Lehre von Selbstmord," Münchener Medizinische Wochenschrift, 1900, p. 1653.

[1] THE LANCET, Jan. 4th, 1908, p. 12.

PERFORATION OF THE GALL-BLADDER IN ENTERIC FEVER.

ALTHOUGH inflammation of the gall-bladder frequently occurs in enteric fever and many cases of post-typhoid cholecystitis have been reported an operation for perforation of the gall-bladder during the disease is a great rarity. In the *American Journal of the Medical Sciences* for April Dr. A. P. C. Ashhurst has recorded two cases. In the first case a boy, aged 12 years, was admitted into hospital about the end of the third week of an attack of enteric fever. The temperature was 101·8° F., there were rose spots and enlarged spleen, and Widal's reaction was positive. He became delirious and the temperature ranged from 103° to 104° and the pulse from 120 to 130. On the thirty-second day of the disease at 10 A.M. he complained of pain in the right side of the abdomen and there was some rigidity of the right rectus muscle, and the most tender *spot* in the abdomen was over this muscle at the level of the umbilicus. At 11 A.M. the pain, tenderness, and rigidity had considerably increased and the abdomen moved very little with respiration. At 1 P.M. the symptoms had further increased, the abdomen was distended, and tenderness was no longer localised but had spread over the whole abdomen, remaining, however, greatest on the right side. There had been practically no change in the pulse-rate but within three or four hours the temperature had fallen from 104·4° to 102·4° and the leucocytes from 10,200 to 6200. Intestinal perforation was diagnosed. At 3 P.M., under ether, a transverse incision was made in the right iliac region. Much bile-stained fluid was found on sponges inserted among the intestines. The whole of the small intestine and about six inches of the ascending colon were examined but no perforation was found. All the intestines were much congested and inflamed. On account of the patient's critical condition no further attempt was made to find the cause of the peritonitis. A tube was introduced and the wound was partly closed. Death occurred 20 hours after the operation. The necropsy showed general peritonitis and perforation of the gall-bladder. In the second case a youth, aged 20 years, was admitted into hospital at the end of the second week of an attack of enteric fever. The temperature was 104° and the pulse was 120. The spleen was slightly enlarged, there were a few rose spots, the Widal reaction was positive, and the leucocytes numbered 8000. About the thirty-seventh day of the disease the temperature became normal but on the thirty-ninth and fortieth day it rose irregularly. On the forty-first day at 8 A.M. the temperature rose to 104° and the pulse to 120. The patient vomited greenish fluid and complained of not feeling so well as previously. He had no pain but on deep palpation below the right costal border slight but distinct tenderness was found. His general condition was good and the leucocytes numbered 24,000. Calomel and magnesium sulphate were given but were vomited. On the following day at 4 A.M. the temperature was 100·2°, the pulse was 136, and there were severe pain and tenderness in the right upper abdominal quadrant. The right half of the abdomen was very rigid. There was no distension or dulness in the flanks. The resident physician diagnosed perforation of the gall-bladder. Dr. Ashhurst was summoned and was surprised to find that the patient looked like a man of 40. His expression was characteristic; there was not the Hippocratic facies but a general weakening of all the features. At 8 A.M., four hours after perforation, a small incision was made through the outer border of the right rectus muscle above the level of the umbilicus. There was a little serum in the peritoneal cavity. The transverse colon was found adherent to the liver and the incision was extended upwards for a distance of four inches. The upper abdominal region was isolated by gauze packs and slight recent adhesions were cautiously ruptured. Serous fluid welled up from above the transverse colon and was followed by four ounces of thick inodorous pus which seemed to come from the under surface of the liver. The gall-bladder was buried in dense adhesions between the liver and colon and showed a ragged perforation measuring 1¼ by 1½ inches. The gall-bladder was excised and its neck was ligatured with chromic catgut. A drainage-tube was inserted and the incision was partly closed. Recovery was almost uneventful. The pus yielded the typhoid bacillus in pure culture. Dr. Ashhurst has found records of 19 operations performed on the gall-bladder during enteric fever. These include aspiration of the gall-bladder through the abdominal wall, cholecystendysis, cholecystotomy and drainage, cholelithotomy, and cholecystectomy. Adding Dr. Ashhurst's two cases, recovery took place in eight out of 21 cases.

THE TREATMENT OF SINUSES WITH BISMUTH PASTE.

IN the *Journal of the American Medical Association* of March 14th Dr. E. G. Beck has described a new method of treating sinuses and chronic abscesses from which he has obtained good results. It is well known that bismuth offers great resistance to the passage of the x rays. Dr. Beck injects into sinuses a paste made with one part of bismuth and two parts of vaseline and takes a radiograph. The shadow shows the shape of the cavity and its ramifications. Sometimes the result is most surprising and shows that patients have not been cured after several operations because all the tract of the sinus has not been removed. A subsequent operation done under the guidance of the radiograph has proved successful. Moreover, the bismuth paste has also curative properties. After one injection a psoas abscess which had existed for nearly two years permanently closed. A girl, aged four years, had a sinus resulting from a psoas abscess which had discharged pus for nearly two years. Bismuth was injected and the skiagraph showed that the fistula extended from Scarpa's triangle along the psoas muscle to the junction of the second and third lumbar vertebræ, where the bismuth filled a space about three-quarters of an inch long and one and a quarter inches wide. A few days later the sinus stopped discharging and two months later it had closed permanently. Another skiagraph was taken and it was found that the bismuth had all disappeared. The method of injection is as follows. The sinus is first dried by packing it with a strip of gauze half an inch wide which is removed just before injection. The paste is sterilised and while hot and liquid a glass syringe is loaded with it. The tip is tightly pressed against the opening of the sinus and the paste is forced in very slowly until the patient begins to complain of pressure. The syringe is then removed and a small gauze sponge is quickly pressed against the opening to prevent the escape of the paste before it has hardened. An ice bag may be applied to hasten the hardening. The injections are continued until the discharge ceases and then a harder preparation containing 5 per cent. of soft paraffin and 5 per cent. of white wax is used, after which the fistula usually remains closed. This treatment is applicable to all sinuses, fistulas, and abscess cavities except intracranial sinuses and biliary and urinary fistulas.

A CONVERSAZIONE will be held at the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, London, W., on Monday, May 18th. The President will receive the company at 8.30 P.M. and subsequently he will present the Fothergillian medal to Sir Almroth Wright, F.R.S. At 9 o'clock Mr. Clinton T. Dent will deliver an oration on the After Results of Injuries.

A COURSE of eight lectures on Some Aspects of the Physiology of the Heart and Circulation, by Mr. Leonard E. Hill, M.B., F.R.S., and Mr. Martin Flack, B.A., will be given in the physiological theatre of the London Hospital on Tuesdays, at 4.30 P.M., beginning on May 12th. These lectures, are free to all students of the University of London.

Professor David W. Finlay, M.D. Glasg., LL.D., F.R.C.P. Lond., will preside at a dinner of the Glasgow University Club, London, at the Trocadéro, Piccadilly-circus, London, W., on Friday, May 29th. Applications for tickets should be addressed to the honorary secretaries.

THE Governor of Hong-Kong in a despatch to the Secretary of State for the Colonies states that 39 cases of plague were reported during the week ending May 2nd, the number of deaths being 39.

INTERNATIONAL FIRST AID CONGRESS. — The forthcoming congress at Frankfort-on-the-Main, which is to be held during Whitsun week (June 9th to 13th), promises to be a great success. Registrations, in order to participate in the proceedings at the congress, are being received daily, and it is confidently believed that in point of numbers the attendance will far exceed 700, the number at first estimated. The honorary committee is composed of influential and distinguished members and includes the German Imperial Chancellor (Prince Bülow) and representatives of the departments of state of the German Union of States. A committee meeting of the British section was held on April 29th at which the Duke of Marlborough, K.G. (who has stated his intention of being present at Frankfort), presided. It is reported that great and increasing interest was being evinced in the project and it was further stated that Great Britain, which always takes the keenest interest in such matters as the congress is being held to discuss, will be well represented. We have been asked to state that any person interested in the cause and who is desirous of becoming a member should at once communicate with the honorary secretary, Mr. S. Osborn, F.R.C.S., Datchet, near Windsor, as time is now very short.

REPORT OF THE BELFAST HEALTH COMMISSION.

THE report of the Belfast Health Commission is a document of great interest and is a storehouse of valuable information on the subject with which it deals. The citizens of Belfast who demanded the inquiry did so on two grounds: first, because they believed, founding their comparison on the statistics supplied by the Irish Registrar-General, that the death-rate of the city of Belfast when compared with that of the majority of the larger cities of the United Kingdom was excessive; and secondly, that the excess was caused largely by diseases of the classes which in the present state of sanitary science are known to be preventable. The Commissioners in their conclusions find that the death-rate from all causes in Belfast is, and has been for several years, about the same as that of Manchester, rather lower than that of Dublin or Liverpool, but not so low as that of other large cities of the United Kingdom, and they say that "although the death-rate of Belfast *from all causes* is by no means low, we think the allegation that it is, or has been in recent years, excessive cannot be maintained." Their verdict on this question is arrived at by estimating the population of the city of Belfast for 1906 as about 380,000 instead of 366,220 as given by the Irish Registrar-General. Everyone admits the difficulty of calculating the population of growing cities in intercensal years (Sir Robert E. Matheson's method is to arrive at the results by a consideration of the birth-rate, of the effects of emigration and immigration, and of any local facts of which he is able to obtain knowledge, while the Commissioners' calculations are based on the birth-rate), and as it will only be known for certain at the next census in 1911 what the population is, the estimate of the Commissioners can after all only be regarded as problematical. It is well known that Belfast has not been increasing of late years as it did, and it is just as probable that the estimate of the Irish Registrar-General may in the end turn out correct, which would as a result make the death-rate higher than it is estimated according to the Commissioners' calculations.

But, even accepting the Commissioners' results, is it any ground for satisfaction that a new, beautifully situated, and quite modern city like Belfast is only exceeded in its general mortality, taking large cities, by Dublin (which has so long enjoyed a very unenviable position for its high death-rate) and by the densely populated city of Liverpool, which from its being the great port of the Empire is constantly exposed to influences not present to the same extent in any other British city? As to the second point—that is, the excess of deaths in Belfast caused by preventable disease—the conclusions of the Commissioners are very striking, for in reference to enteric fever they say that the mortality from it in Belfast has been excessive in almost every year since the time (1872) when deaths from this disease were first separately recorded in the returns of the Registrar-General of Ireland. For the last 25 years at least the mean annual mortality from this disease has been so great in Belfast that no other city or town (the Commissioners say) of the United Kingdom equals or even approaches it in this respect. Indeed, the very excess of this disease has been so great as to "make Belfast unique in this respect among communities in the United Kingdom." Then as to pulmonary and other forms of tuberculosis, the mortality has been, and is, excessive in Belfast (the Commissioners report) in comparison with English and Scottish cities, but it has not been exceptional for an Irish city.

As to infantile mortality, Belfast holds a not unfavourable place in comparison with other great cities in the United Kingdom (146 per 1000 births in 1901-05), due largely to the fact that the nursing of infants by their mothers is more extensively and more thoroughly carried out in Belfast than in either England or Wales. The Commissioners think that it is probable that the rate of infantile mortality in Belfast is somewhat understated, but even taking it as calculated they say "it is not to be understood that the Belfast rate of infantile mortality is low, or as low as it might be. Steps should be taken to continue examination of the causes of death among infants and as a result to devise further means of reducing this mortality." Moreover, the Commissioners point out that influences seem to exist in Belfast of a sort to cause undue mortality among all young people, but especially so among females between the ages of five and 45 years—that is to say, among females during a period of life which embraces the school age, the age of puberty, the young working age, and also the child-bearing age. They commend the detailed analysis of these mortality returns to the Belfast corporation.

In reference to the prevalence of enteric fever, in the *opinion of the Commissioners insanitary conditions have no* doubt played a very important part in fostering enteric fever in Belfast but cannot of themselves account for so excessive a mortality from this disease or for other features of its history, nor do they think that the water-supply can account for enteric fever in Belfast, because there has been no relation between the distribution of the disease and the distribution of any one of the three separate sources of water-supply. On the contrary, the incidence of enteric fever in different parts of the city has been generally similar and simultaneous, irrespectively of water-supply or insanitary conditions, and, moreover, it appears to have almost exclusively affected the working-class areas of the city. The prevalence of enteric fever in Belfast, the Commissioners think, is due to the influence, direct and indirect, of shell-fish gathered from the grossly contaminated foreshores of Belfast Lough. An extremely valuable addendum to the report on "Enteric or Typhoid Fever in Belfast," by Dr. L. W. Darra Mair, is in support of the same view and should be read by everyone interested in the etiology of enteric fever. On the other hand, some will think that the case for the shell-fish origin is hardly proved and that the extraordinary and continued prevalence of a disease like enteric fever (in 1898 two out of every 1000 of the population in Belfast died from enteric fever) *suggests* a much more widely diffused and constantly acting cause than the eating of raw shell-fish. It may be pointed out that a careful inquiry made some time ago at the Fever Hospital in Belfast disclosed the fact that the consumption of raw shell-fish by those who suffered from enteric fever was an infinitesimal factor in the cases.

It is to be regretted that in reference to the "white plague of Ireland"—tuberculosis—the Commissioners seem to have failed to face the question and this is the more remarkable because it was largely on account of the prevalence of tuberculosis that the Commission was appointed. Two questions were raised at the Commission: the great prevalence of pulmonary tuberculosis in Belfast and in Ireland, and all we can gather from the report is that "the age and sex incidence of phthisis mortality in Belfast and Ireland is very different from what it is in Manchester and in England and Wales. It may, to some extent, be due to differences in disease nomenclature in the two countries. The whole question of phthisis in Ireland seems to us to require further and exhaustive inquiry. We have refrained from any recommendations in regard to the notification of phthisis and the provision of sanatoria or dispensaries, as the Local Government Board for Ireland have advised local authorities in recent years, and we understand that a Bill on these subjects is about to be introduced by the Chief Secretary for Ireland." Since 1864 the mortality from tuberculosis has steadily fallen in England and Scotland while it has as steadily risen in Ireland. Surely a commission (on which both English and Scotch public health experts sat) should have tried to give the people of Ireland some explanation of such a deplorable state of affairs and how it could be prevented. This is undoubtedly the weakest and most disappointing part of the whole report.

The report is a vindication of the action of the medical profession who urged, when the position of medical officer of health was last vacant, that a man of thorough practical experience and training in public health should be appointed at an adequate salary, and that he should be sole head of his department. "In view," the Commissioners say, "of the many complaints which for several years had arisen in connexion with the work of the Public Health Department, it was of primary importance that a man of wide experience in public health administration in other places should have been appointed, and that a salary should have been offered which would have attracted highly qualified and experienced candidates. This view was very strongly urged upon the corporation by the Local Government Board but was not adopted. We consider that a grave mistake was made by the corporation in not accepting this advice. *This office*, for a city like Belfast, is always of great importance, and was especially so in the circumstances of the moment; and it must be remembered that the issues at stake concerned the health of a large industrial city, eighth in population in the United Kingdom. Unfortunately, in Belfast it has been customary to fill this position by electing a former member of the corporation thereto, and it is obvious that when a comparatively low initial rate of salary is proposed, and it appears probable that local connexions will outweigh special qualifications for the discharge of the duties of the office, the choice of candidates is likely to be restricted."

The Commissioners are totally opposed to the present arrangement by which there are 14 local medical officers of health (dispensary doctors) appointed by the guardians, while the medical officer of health is elected by the corporation, and they report that this system should be abandoned as unsuitable and unworkable in the case of a large city like Belfast, and that instead reorganisation should be effected so as to bring the public health administration into line with that which obtains in the great cities of England and Wales and Scotland by making provision for the appointment of a special medical staff for public health work. The whole responsibility of the administration would thus be placed on the central medical officer of health who should have such assistance as may be deemed necessary. The Commissioners are very severe on the present system in Belfast by which the chief medical officer of health is not supplied with vital statistics which the late Dr. Farr said formed the basis of all health reform. "The cause of not one infant's death in Belfast is known to the Belfast corporation. Similarly the causes of death among children are quite unknown, or indeed the causes of death among persons of whatever age. Likewise the corporation are completely in the dark as to places where deaths in the city are occurring even from such important diseases as phthisis, tuberculosis, pneumonia, cancer, diarrhœa, or from diseases which may be due to industrial causes, to poverty, or to any of the other conditions which may be thought of as associated with modern town influences. And even in regard to the principal epidemic diseases similar ignorance prevails, except in regard to those which are notifiable under the Infectious Disease (Notification) Act." Further, the Commissioners say "it it therefore impossible for Belfast to institute what may be termed a 'pathological register' in which to record the sex, age, residence, and nationality of every diseased person, the size, situation, sanitary circumstances of his house, and so on, such as has proved of great value to other local authorities." They wisely say that it is obvious that the matter cannot be allowed to rest thus and that the most effective and most natural method of dealing with it is to follow the precedent of the English and Scottish Registration Acts, even if such a method involves fresh legislation, and they strongly recommend that this should be done without loss of time.

The report may be described as containing a series of admirable recommendations, to some of which we have already alluded. In reference to the water-supply a more thorough filtration is advised, and the early development of the Mourne supply is considered to be the main feature of future policy; and further, it is recommended that the water-supply should be in the hands of the corporation. Capital advice is given as to sewage disposal, sanitary administration (including the appointment of a special medical staff for public health work, the appointment of a bacteriologist, increase of sanitary sub-officers, increased accommodation for infectious cases, the provision by the corporation of an efficient steam disinfecting apparatus, the removal of refuse, and the proper treatment of insanitary areas), milk- and meat-supplies, schools, and conditions of employment. But the impression left by a perusal of the report can hardly fail to be that in the great city of Belfast, the most populous city in Ireland and the eighth in the United Kingdom in regard to population, the science of public health is in a more backward condition than in any town of its size in the United Kingdom. The report is, as we have already pointed out, a thorough vindication of the action of those who, in the interest of the health of their city, asked for the appointment of such a Commission. It is hoped that a further step will shortly be taken—namely, to urge the Irish Government authorities to demand that the weighty suggestions in the report shall be carried out and that they shall not be "pigeon-holed" as those of the "Harrison" Committee were in 1896—a report of great importance, because, as the present Commissioners say, "it expressed the views of a committee of the corporation on their own administrative methods."

Those of the public health committee of Belfast who think because the Commissioners estimate the population of Belfast as higher than the careful calculation of the recognised authority—the Irish Registrar-General (who will be entitled to criticise their figures)—that they have gained a victory over those who asked for the appointment of the Commission, must be compelled to face the very serious and numerous recommendations contained in the report. It is interesting to note that the Local Government Board has written to the corporation of the city of Belfast urging it to "bestow upon the report and the valuable recommendations therein contained that immediate and earnest consideration which a matter so seriously affecting the health of their city demands."

THE REMOVAL OF KING'S COLLEGE HOSPITAL TO DENMARK HILL: MEETING OF SOUTH LONDON MEDICAL PRACTITIONERS.

ON April 30th a largely attended meeting of general practitioners of South London was held at the Camberwell town hall to consider the future administration of King's College Hospital as it will affect the practitioners of South London, the district into which it is to be removed. Very nearly 100 attended the meeting which was held under the auspices of the South London Hospitals Committee, the chairman of which body, Mr. Robert Capes, occupied the chair. Before opening the business of the meeting the chairman proposed a vote of sympathy with the widow and relatives of the late Mr. C. H. Brangwyn, a member of the committee, which was passed in respectful silence. He then proceeded to explain that the South London Hospitals Committee had been created to confer on behalf of the medical practitioners of that district with the Watching Committee of King's College Hospital, a body appointed by the board of the Medical School with advisory but not executive powers as to the administration of the new buildings. He expressed gratitude for the very reasonable and fair attitude which the hospital had adopted towards the practitioners of South London, and insisted that there was no question of their opposing the advent of the hospital and that it was desirable to work in harmony with the Watching Committee. A year ago the two committees held a conference at which the practitioners presented to the watching committee 17 resolutions designed to check abuse of the hospital charity and to safeguard the interests of neighbouring medical men. Of these the watching committee agreed to the following 15 (although it would appear that Nos. 7 to 10 depend on No. 6 which was not approved) :—

1. That there be no issue of subscribers' letters.
2. That sickness and poverty be the qualifications for hospital treatment.
3. That no charge be made for the treatment of any patient of the hospital, or for the supply of medicine or dressings.
4. That urgent cases receive attention without inquiry.
5. That each applicant for treatment, on the first visit, be seen by a registered medical practitioner and if found suitable for hospital treatment attended to; and that the name, age, address, occupation, or position be entered in a register.
7. That such certificate be written on a form supplied by the hospital.
8. That such certificate, duly filled up, be appended to each patient's prescription-paper or attendance-card.
9. That the following be submitted to the authorities of King's College Hospital as the ordinary form to be supplied to patients attending the hospital for the first time.

MEDICAL CERTIFICATE.

I hereby recommend.............................. aged ....
as a suitable case for treatment at the.........................Hospital.
....Registered Practitioner.
.............................19.........
No charge is made for this certificate.

(REVERSE SIDE OF CERTIFICATE.)

In signing this certificate, the practitioner is requested to keep in view two points:—
(1) That the applicant is not in a position to pay for treatment;
(2) That the case is, from a hospital point of view, suitable for treatment.

10. That a similar certificate be required in maternity cases.
11. That it would be satisfactory if a system could be arranged whereby obscure and interesting cases might be brought or sent with a note by practitioners for an opinion when a consultation fee cannot be paid.
12. That all cases of trivial accident or illness deemed ineligible for the out-patient department shall, after having been once attended to, be referred for treatment elsewhere.
13. That, should a general practitioner report in writing the attendance of a person well able to pay, the letter if duly signed be treated as confidential and the matter investigated.
14. That the hospital authorities use every means in their power to prevent unsuitable cases receiving hospital treatment, and appoint such officers as they consider desirable to make inquiries with a view to checking hospital abuse.
15. That the regulations as to the admission of patients for treatment be displayed in conspicuous positions in the hospital.
16. That no patients except maternity cases be attended outside the hospital.

The two following resolutions were not approved by the watching committtee :—

6. That, on a second application for treatment, a patient bring with him a recommendation signed by a qualified medical practitioner stating that such patient is a suitable person for hospital treatment.
17. That private wards or nursing homes for paying patients be distinct from the general hospital and not erected or maintained out of the funds given for hospital purposes.

It was to discuss these important points of principle that the meeting was convened.

Dr. M. G. **BIGGS** proposed the following motion :—

> That this meeting strongly disapproves of paying patients being admitted into general teaching hospitals erected out of charitable funds, and sincerely hopes the authorities of King's College Hospital will not adopt any system for the admission of paying patients.

He endorsed fully the chairman's remarks concerning the considerate and courteous treatment shown by the Watching Committee to the South London practitioners. He explained that the hospital only intended to take in *contributory* patients to the paying beds—i.e., to charge them only for maintenance and not for treatment, as it was thought there was need of accommodation for such people as were above the general run of hospital patients but relatively worse off than that class. They were to be admitted to special wards and used for teaching purposes and to be treated by the hospital staff. The British Medical Association had laid it down that there was no objection to paying wards in hospitals if they were open to the general body of practitioners to send in cases which they could themselves continue to treat. Dr. Biggs went on to speak of the temptation experienced by hospitals having paying wards to exploit them as a means of gain and submitted that it was neither wise nor right to use charitable funds for investment in such commercial undertakings. "Contributory" patients could be cared for equally well by their own medical attendants in special nursing homes or cottage hospitals managed by committees on which medical practitioners should be properly represented; to such hospitals younger consultants would gladly come for moderate fees if required for purposes of consultation or to carry out special treatment.

Dr. J. F. W. **SILK**, secretary of the King's College Hospital Watching Committee, said it would be four years before patients could be admitted to the new buildings, so the matter was not urgent. All over the country lay people were bringing pressure to bear upon hospitals to institute paying beds, and the present scheme had been put forward in deference to such pressure. He submitted that the public paying the piper had a right to call the tune. The Watching Committee held that it was utterly impracticable to throw the wards of a teaching hospital open for all or any local practitioners to have charge of cases treated in its wards. Every possible precaution would be taken to prevent abuse of the contributory beds, which would be in annexes to the general wards; each was to hold two beds, a number considerably less than had been originally proposed, thanks to the Watching Committee's strong representations. The almoner would be able to check any abuse of these beds. In answer to Dr. F. G. Swayne Dr. Silk stated positively that the contributory beds would not be made a matter of gain to the hospital.

Dr. J. H. **KEAY** also spoke to the motion which was put to the meeting after the proposer had replied and was carried unanimously.

Dr. R. **ESLER** then moved :—

> That it is the opinion of this meeting that the system of admission to King's College Hospital by certificates from the medical practitioners as set forth in resolution 6 of the South London Hospitals Committee should be given a fair trial, and this meeting strongly urges the authorities of King's College Hospital to incorporate this system into the rules of the hospital.

He acknowledged that the system would entail much trouble to practitioners but declared that their interest in the matter was apparent. Hospital abuse was not the fault of the members of hospital staffs, although they were often blamed by general practitioners for treating patients who could afford to pay. This proposal gave a solution to the difficulty.

All great hospitals were in need of funds and treated too many out-patients. Medical men could get more influence on hospital committees if they would stand firm. In the course of his speech Dr. Esler made certain remarks concerning feminine competition which, considering the presence of lady practitioners in his audience, might have been omitted.

Dr. E. R. FOTHERGILL moved the following amendment:—

1. That this meeting of South London registered medical practitioners understanding (1) that at the present time a Royal Commission is inquiring into the Poor-law system; (2) that the King Edward Fund has decided to inquire into the system prevailing at the large general hospitals of London with regard to the admission of out-patients; and (3) that for the uses of the sick poor resident in Camberwell and district there are already provided 25 hospitals, five infirmaries, 18 dispensaries, and nine other institutions, considers that there has been no evidence offered of the necessity for any out-patient department at the proposed King's College Hospital on the lines of those at the large London general hospitals; regrets that a contract for £55,000 for such a department has been placed; and is of opinion that a small out-patient department to which will be admitted either for consultation or treatment only those recommended as suitable by registered medical practitioners, as suggested in Resolutions, 6, 7, 8, 9, and 11, would amply meet the needs of the district, would fulfil all requirements for the education of students, and should be given a fair trial.

2. That the Lambeth, Norwood, and Wandsworth divisions, the Metropolitan and South-Eastern Branch Councils, as well as the Central Council and Representative Body of the Association, be urged to approve and support this resolution, a copy of which shall also be sent to King Edward's Hospital Fund, the Hospital Saturday and Sunday Funds, the Charity Organisation Society, King's College Hospital Board, THE LANCET, the *British Medical Journal*, and the press generally.

His speech was a well-considered and able elaboration of the arguments embodied in the amendment. He insisted that the interests of the profession and the public coincided, deplored the fact that hospital rivalry had led to commercial exploitation of the statistics of patients treated, instancing a recent increase of 100,000 per annum of out-patient attendances at Guy's Hospital with a consequent loss to the general practitioner. He submitted that South London did not want an out-patient department for King's College Hospital which should coöperate with existing dispensaries. There were five classes of hospital out-patients: (1) those who could afford to pay for advice; (2) those who were in clubs and dispensaries but yet went to hospital; (3) those who ought to be in, but would not join, clubs and dispensaries; (4) Poor-law cases; and (5) cases genuinely needing a second opinion and unable to afford a consultant's fee. A *consultation* department would be legitimate and useful—in fact, more useful for teaching purposes than the present out-patient departments. The speaker drew a striking picture of the present unsatisfactory method of dealing with out-patients at general hospitals from the point of view of the patients, the students, and the medical staff in charge. Over 150 medical men in the neighbourhood had promised to give the scheme a fair trial. Dr. Fothergill finished his remarks with a spirited appeal to the older practitioners to assist the younger in their struggle.

Dr. L. S. McMANUS, after congratulating the meeting on showing so united a front against a common enemy, gave a clear account of the system in practice at the Bolingbroke Hospital, of the staff of which he is a member. The special departments of the hospital were each in charge of a London consultant of high standing who attended on special days. Each out-patient brought up a card from his own medical attendant and the consultant wrote his opinion on a form which was sent back to that practitioner who carried out the treatment himself. He insisted that this was a more rational and honest method than that of giving the patient a quart of medicine at the hospital and telling him to come back in a fortnight, no matter what happened to him meanwhile. Dr. McManus enlarged upon these arguments in forcible and telling manner.

The amendment was debated by Mr. C. W. HOGARTH, Dr. KEAY, and Mr. V. S. PARTRIDGE with regard to the feasibility of the medical certificate system; the possibility of certain abuses was suggested.

Mr. H. HARVEY NORTON said that such a card system had failed hopelessly at the Belgrave Hospital and he suggested that local practitioners should subscribe to support their own almoner at the hospital.

Dr. SILK protested that it was too late to object to an out-patient department which had already been planned by King's College Hospital.

Dr. FOTHERGILL again pleaded that his plan should be given a fair trial, and the amendment was put to the meeting and carried by 58 votes to 9, and passed again without further discussion as a substantive motion.

Mr. W. SOPER moved a vote of confidence in the South London Hospitals Committee, which was carried unanimously, as were votes of thanks to the Chairman, to Dr. Silk for his attendance, and to the mayor and town council of Camberwell for the use of the town hall for the meeting.

THE ROYAL ACADEMY.

THE 140th exhibition of the Royal Academy of Arts was opened to the public on May 4th, and the protagonist of the exhibition is undoubtedly Mr. Charles Sims, to whose pictures we shall refer later. To begin with the pictures having a medical interest, Mr. J. Seymour Lucas shows a portrait of Sir Francis Laking (348) in gorgeous robes and decorations, while Mr. John Collier (428) exhibits a work called "Sentence of Death," which we imagine represents a physician telling a patient that he is doomed. We presume that he is a physician because on his desk are a microscope, a stethoscope, and a sphygmomanometer. The nature of the patient's illness is by no means easy to diagnose. He is quite young, he is evidently not suffering from advanced tubercle, he is not bronzed enough for Addison's disease, so we can only suggest visceral sarcoma. A work which may well be compared with this is Mr. Edgar Bundy's dramatic rendering of an episode during the Great Rebellion called "The Sands of Life" (324), in which a captured cavalier sits waiting for death whilst the sands of an hour-glass are running; among the Puritans who stand watching him is a fanatical preacher of the type that used to be called by the Cavaliers "a Doddipot and a Green-headed Trumpeter"; it must be some consolation to the unfortunate prisoner that when the sands have run out the exhortation will come to an end. The work is very strong in the various expressions of the different faces, on some of which a firelight plays. Turning to Room 1, Mr. George Clausen's "Gleaners Returning" (4) will at once attract attention, while No. 14, Mr. Mouat Loudan's "The Crystal," which has been most unjustifiably skied, is singularly charming. Mr. J. J. Shannon's "Princess Patricia of Connaught" (16) is in every way worthy of being placed by the side of the magnificent portraits of her father and mother by Mr. Sargent, which are in Room No. 3. Another portrait in this room merits attention—namely (23), by Sir W. Q. Orchardson, the subject being Nurse Charles (Mrs. W. H. Wood)—but the gem of this room, in fact, we think we may say of the whole collection, is (50), Mr. Charles Sims's "The Little Faun," a truly exquisite fantasy, full of the spirit of Theocritus. Mr. Sims has the true child spirit, such as Thomas Traherne wrote of when he said,

> "Then did I dwell within a world of light,
> Distinct and separate from all men's sight,
> Where I did feel strange thoughts, and such things see
> That were, or seemed, only revealed to me."

No. 55, "A Ligurian Garden," shows Mr. La Thangue in his sunniest mood. In Room 2 Mr. Shannon exhibits an experiment in the nude called "The Infant Bacchus," in which it would almost appear as if one nymph had been painted from a model who has been in the habit of tight-lacing. In Gallery No. 3 besides Mr. Sargent's *portrait*, which we have already noticed, Sir Hubert von Herkomer has a strongly painted portrait of the Bishop of London (183), next to which Mr. David Murray has a wonderful study of sea and sky, which would seem to be a recollection of the amazing Krakatoa sunsets of 1884. Mr. George Clausen in (202) shows one of his vigorous and spiritual studies entitled "The Boy and the Man." In (207) Mr. Sargent has a striking portrait of Mr. A. J. Balfour. In (239) Mr. J. M. Swan shows his usual skill in portrayal of pumas and jaguars in his presentment of Saint Maldonada, who, be it remembered, was tied up to a stake for the wild beasts to eat and who was guarded from destruction by pumas. In Gallery No. 4 Mr. Frank Brangwyn exhibits (257) a magnificent piece of decorative colour-work called "The Return." It is a decoration which ought to be bought by some millionaire who possesses a gallery like that in Carabas Castle immortalised by Thackeray in the "Book of Snobs," which the housekeeper described as "One 'undred and forty-eight in lenth by thirty-two in breath," for it requires to be seen at a distance of about 40 feet to be appreciated properly. Mr. Frank Bramley's portrait group, "Helen Graham Chalmers and Her Mother" (300), is full of light and air and colour. In Gallery No. 5 Mr. C. W. Wyllie's (347), also called "The Return," is worthy of close study and comparison with Mr. Brangwyn's treatment of a similar idea; and Mr. Sims in (361) has, we are glad to say, captured the Chantrey Fund by "The Fountain," a study of falling waters, light, and nymphs, which shows the artist in the best sense to be truly *νυμφόληπτος* Our space is too limited to allow us to do more than mention a few of the remaining pictures. In (417) Mr. George Henry has a charming portrait study which he calls "Silk and Ermine," and another striking portrait is (433), H.H. the Maharajah Orocha, by Mr. Herbert Olivier. Mr. George Harcourt (480) exhibits a brilliant piece of work entitled "Supper in Summer Time." In the room popularly known as the "Gem Room" Miss C. M. Wood has a very clever study of the splendid colours shown by various copper ores (683). Two adjoining pictures in Gallery No. 10 should on no account be missed, these being Nos. (877) and (878), by Mr. Raven Hill and Mr. G. Sherwood Hunter respectively, the former being a study of a lady seated in subdued light at a piano, and the other a Brittany "First Communion" with a charming effect of light from a hundred candles mixing with the daylight. Mr. E. A. Hornel in (897) has a picture singularly reminiscent of his exhibit in the New Gallery, and in (975) Mr. W. W. Ouless shows a good portrait of Mr. Pridgin Teale. Of the water-colours we have only space to notice the President's little picture of Amat Forest, Ross-shire.

Of the sculpture we must first mention (1848) Mr. Herbert Frampton's bust of Dr. J. Hughlings Jackson, which is to be placed in the Hospital for Epilepsy and Paralysis, Queen-square, Bloomsbury, London, W.C. Mr. F. Lynn Jenkins' group (1851), "The Ides of March," shows well the lifelessness of Cæsar's body as opposed to the two senators straining to support it. Other notable statues are (1820) Mr. Harold Parker's "Ariadne" and (1974) Mr. Bertram Mackennal's "Diana," two beautiful nudes which have been acquired for the nation by the Chantrey Fund, which has also rightly acquired Mr. C. L. Hartwell's vigorous little bronze of elephants which he calls "A Foul in the Giants' Race." Lastly, we must mention (1973) Mr. Goscombe John's model of altar tomb and effigy of the late Marquis of Salisbury, and (1976) Mr. F. Derwent Wood's "Psyche." On the whole we consider that this year's Academy exhibition is one of the most interesting of those which have been held during recent years.

BRITISH MEDICAL BENEVOLENT FUND.

AT the April meeting of the committee 20 cases were considered and grants amounting to £202 were made to 18 of the applicants, two cases being postponed for further inquiry. Three vacancies for annuitants of £20 were filled by selected candidates. Appended is an abstract of the cases relieved:—

Daughters, aged 54 and 47 years, of late M.R.C.S. Since loss of means some years ago through the dishonesty of a trustee applicants have supported themselves by acting as companions, &c., but just at present have no engagements. Voted £10.

L.R.C.P., L.R.C.S. Edin., aged 48 years. Had one eye enucleated 12 years ago and has since lost sight in the other. No income. Wife lets lodgings. Five children, aged 13 to eight years. Voted £18.

Four children, the eldest 13 years and the youngest one month, who have lost both parents during the current year. Are given a home by maternal grandfather, a clergyman with small means and a large family. Voted £10, with leave to apply again in six months.

Daughter, aged 65 years, of late M.D. Lond. Only income £4 a year from savings during 40 years of teaching. Now endeavours to support herself by knitting and needlework. Voted £12.

Daughter, aged 57 years, of late L.S.A. Lets lodgings and has to support a sister incapacitated by ill-health. Voted £12

Daughter, aged 31 years, of late L.R.C.P., L.R.C.S. Edin. Has maintained herself as a nurse-companion but is now incapacitated by rheumatoid arthritis. No income. Voted £10.

Widow, aged 57 years, of M.D. Edin. Has a post as housekeeper but at present has to support a daughter who is temporarily incapacitated. Voted £5.

Widow, aged 60 years, of M.R.C.S. No income. Children unable to help and health very bad. Relieved twice, £24. Voted £12.

Widow, aged 45 years, of L.R.C.P., L.R.C.S. Edin. No income. Health very indifferent. Two sons who are sailors only just self-supporting. Relieved four times, £39. Voted £12.

Daughter, aged 58 years, of late M.R.C.S., who was an annuitant of this Fund. Is given a home in exchange for services as working housekeeper, but receives no salary. Relieved seven times, £108. Voted £10.

Daughter, aged 58 years, of late M.D. Aberd. Endeavours to support herself by teaching music, but finds increasing difficulty in obtaining pupils. Relieved once, £10. Voted £10.

Widow, aged 53 years, of M.B. Aberd., whose means were exhausted by a long illness which preceded his death. For some time past applicant has held a post as nurse-companion but has been obliged to give it up on account of ill-health and at present is incapacitated. Children just self-supporting. Relieved once, £5. Voted £10.

L.S.A., aged 60 years, is incapacitated by paralysis agitans. Only income £30 a year from Epsom College. Four children, aged 18 to 12. Relieved twice, £36. Voted £18.

Widow, aged 59 years, of M.R.C.S. No income. Slight help from children; health indifferent. Relieved ten times, £111. Voted £12.

Daughter, aged 69 years, of late M.R.C.S. Has supported herself for many years as a governess. Now dependent on a small weekly allowance from a benevolent institution. Relieved once, £12. Voted £12.

Widow, aged 47 years, of M.B., C.M. Edin. Income £16 a year, and is allowed a small weekly sum by a relation. Takes boarders. Seven children, of whom six are still at school; health indifferent. Relieved nine times, £102. Voted £12.

Widow, aged 48 years, of M.R.C.S., L.S.A. Has been a housekeeper for some years, but salary has been insufficient for the bringing up of her two children, who are still barely self-supporting. Relieved nine times, £110. Voted £5.

Daughter, aged 62 years, of late M.R.C.S. No income; occasional slight help from friends. Relieved once, £12. Voted £12.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between April 25th and May 1st by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscriber of Five Guineas.

C. Theodore Williams, London.

Subscriber of Three Guineas.

Wimbledon and District Medical Society, per D. Finlay.

Subscriber of Three Pounds.

Leigh Division B.M.A., per J. S. Martin.

Subscribers of Two Guineas.

Sir T. Clifford Allbutt, Cambridge.
John Fawcett, London.
J. Dundas Grant, London.
John S. Griffiths, Bristol.
W. T. Lister, London.
Rochdale Division B.M.A., per James Melvin.
Harold J. Stiles, Edinburgh.

Subscriber of Thirty Shillings.

Gibraltar Division B.M.A., per L. D. Parsons.

Subscribers of One Guinea.

W. Bligh, Caterham Valley, Surrey.
W. A. Bond, London.
Byrom Bramwell, Edinburgh.
A. T. Brand, Driffield.
Alex. Brownlee, Cardiff.
R. J. Coulter, Newport, Mon.
D. Dewar, Stanley, Co. Durham.
Paul M. Chapman, Hereford.
J. Charles Edwards, Aberfan, Glam.
Henry Edwards, Port Dinorwic, N. Wales.
Thomas A. Munro Forde, Southsea.
T. J. Frost, Llanhilleth.
E. Hosking, Turner's Hill, Sussex.
J. C. W., London.
D. Rhys Jones, Cardiff.
Robert Lawford Knaggs, Leeds.
D. Martin, Liverpool.
T. C. Pagden, Horley, Surrey.
William E. Peck, Hastings.
B. Rix, Tunbridge Wells.
C. W. Sharpley, Ulceby, Lincolnshire.
Michael Sheehy, Brynmawr, Breconshire.
Elizabeth Wilks, London.

Subscribers of Half-a-Guinea.

Raglan W. Batten, Gloucester.
W. Hartley Bunting, Birmingham.
Edward Buxton, Great Crosby.
T. H. C. Derham, Preston.
W. G. Evans, New Quay, Cardigan.
Alfred Freer, Stourbridge.
James Melvin, Rochdale.
John Rigg, Preston.
C. W. Stevenson, Arnold, Notts.
E. H. Worth, London.

Subscribers of Ten Shillings.

Eric Evans, Cardiff.
John S. Goyne, Earswich, York.
R. W. W. Henry, Leicester.
R. C. B. Holland, Matlock.

Subscribers of Five Shillings.

H. Durbridge, Matlock.
R. S. C. Edleston, Baslow.
C. W. Evans, Bakewell.
P. S. Fentem, Bakewell.
Thomas Fentem, Bakewell.
J. L. Fletcher, Winster.
J. Hoole, Parwich.
R. H. Jackson, Bakewell.
H. W. G. Lander, Hathersage.
J. A. Lee, Fyam.
H. W. Moxon, Darley Dale.
W. Moxon, Matlock.
A. L'Estrange Orme, Darley Dale.
T. H. Parke, Tideswell.
F. H. Pearce, Redhill, Surrey.
J. B. Tindall, Preston.
Edward Wrench, Baslow.

Subscriber of Half-a-Crown.

F. A. L. Burges, Birmingham.

ASSOCIATION OF SCOTTISH MEDICAL DIPLOMATES.—The annual dinner of this association will be held at the Hotel Waldorf, Aldwych, London, W.C., on Tuesday, May 26th, at 7.15 for 7.30 P.M., under the chairmanship of the President, Dr. David Walsh. Ladies are invited and any holder of a Scottish qualification will be welcomed. Tickets, 10*s.* 6*d.* each (exclusive of wine), may be obtained from the honorary secretary, Dr. Arthur Harries, 11, Chandos-street, Cavendish-square, London, W.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 8th, 1830.

INVENTION OF THE DILATOR.

To the Editor of THE LANCET.

SIR,—I beg leave, through the medium of your publication, to make a few remarks upon a little instrument which has been ycleped the dilator, and which has been assumed as their own invention by certain persons, without reasonable confession of the original suggestor. This instrument has been pompously introduced into a late publication on mechanics, and ostensibly constitutes the ground-work of a publication, in which it is represented as a personal discovery. In 1811, on the way home from the East Indies, I had a gentleman under my charge who was troubled with stricture. In the course of reflection on the subject, it occurred to me, that it would be very possible to make an instrument which could be dilated, or widened, at any given point of its length, or that a greater or shorter extent of its length might be made capable of dilatation, either abruptly or gradually, from the cylindrical portion of the instrument. I illustrated a tool of this kind upon paper, and mentioned of what materials it might be constructed, to the person referred to; he instantly perceived the possibility of such a contrivance, and that it might be more or less serviceable. On my return to Britain, I intended to have said something on the subject in a periodical publication, but I concluded that it would not be particularly beneficial, and would lead only to quackery and humbug. I saw also a number of objections which might be instituted against it, and therefore very considerable probability of its comparative uselessness. On reaching London, in the summer of the same year, I mentioned the plan to the author of the Elements of Mechanics and Medical Physics, and stated, expressly, several substances of which the dilator might be composed. He appeared to catch at the suggestion with eagerness, and, if I mistake not, immediately entered it in a memorandum. For some reason, perhaps the "*fidem dabo*," he must have conveyed the hint to his brother (who has published a book on this trifle), as the former durst not avowedly be concerned in the thing himself. I believe it has done some good to the two brothers, but none to its legitimate father. The original proposer, actuated by sincerity and honesty of principle, declined executing his design, and has not obtained even the concession of an acknowledgment. A. SIMPSON, M.D.

Great Russell Street, April, 1830.

MEDICINE AND THE LAW.

Medical Fees: an Important Decision.

AT Ulverston (Lancashire) county court on April 28th Judge Steavenson gave an important judgment that cannot fail to be of interest to medical practitioners generally. The plaintiff was Mr. R. H. Beardsley of Grange-over-Sands and he sued Mrs. Willan of Holme Island for £80 17*s*. 6*d*. for medical attendance and medicines. The defence was that more visits had been paid than were necessary and that the charges for the same were unnecessarily high. It was given in evidence that Holme Island was rated at £165 gross and £140 net. Dr. A. Carmichael of Barrow-in-Furness said that in his opinion the plaintiff's account was a reasonable one and that 10*s*. per visit, with medicines extra, was a proper charge to make for attendance at a house of the description of Holme Island. Dr. R. O. Bowman of Ulverston gave similar evidence and Dr. R. G. Alexander of Halifax, who had been called in in consultation with plaintiff, said that the defendant was very ill indeed at the time when he saw her and that the visits paid were not too numerous but were absolutely necessary. It was owing to the skill with which she had been treated that she was alive now. Mr. Beardsley supported his account in evidence, giving particulars showing that for ordinary visits 10*s*. had been paid and for consultations £1 1*s*. plus the ordinary 10*s*. charge, which he always considered was the proper charge to make for a consultation. In reply to the judge the plaintiff said that he was not a Licentiate of the Society of Apothecaries. He was a Licentiate of the Royal Colleges of Physicians and Surgeons, Edinburgh, and a Licentiate of the Faculty of Physicians and Surgeons, Glasgow. It was stated that £50 had been offered in payment of the account and refused, and that as to £5 5*s*. of the claim, if the defendant pleaded the Statute of Limitations, it was statute barred. For the defence Dr. R. Lowther and Mr. O. Gwatkin medical practitioners at Grange-over-Sands were called and said that in their opinion the account was unreasonably high. They admitted, however, that they did not consider 10*s*. a visit and the charge for medicines unreasonable, considering that Holme Island was one and three-quarter miles from the plaintiff's surgery and that Mr. Beardsley had by stipulation to attend at 10.30 each morning which would doubtless be inconvenient to him and disarrange his ordinary work. Judge Steavenson delivered a considered judgment after the luncheon interval. He said he considered from the evidence that 10*s*. per visit was a proper charge, considering the value of the house, its distance from the plaintiff's surgery, and the stipulation that he was to attend the patient at a particular time. He accepted the evidence of Dr. Carmichael that a consultation fee was double the ordinary fee, which in this case must therefore be fixed at 20*s*. He did not consider the qualifications held by Mr. Beardsley entitled him to charge for medicines and that part of the claim must come out. The claim would be reduced by £11 14*s*. 3*d*. for medicines and excess charged for consultations, and the £5 5*s*. that was statute barred, leaving a balance of £63 18*s*. 6*s*. £50 had already been paid—being in the hands of the plaintiff's solicitor—so he therefore gave judgment for £13 18*s*. 6*d*., with costs on the higher (B) scale, with allowances for witnesses.

"*The Separate Existence*" *of the Newly Born Child.*

At the recent discussion on Infanticide at the Medico-Legal Society several speakers referred to the ingenuity and quibbles of defending counsel which made it impossible, in connexion with a charge of infanticide, to determine, in the absence of the direct evidence of an eye-witness, whether a child had had "a separate and independent existence" before its life ceased. "A separate and independent existence" has been ruled in court at different periods to indicate at least four physiologically different conditions. The first and simplest requirement is the physical separation of the body of the child from the body of the mother, so that the child is wholly born into the world and is thus a full subject of the King; in this connexion it has been decided that the umbilical cord need not have been severed. The second view, which in practice was accepted for many years, was tested by the question: "Has the child breathed?" The fallacy of this test was insisted upon by those who alleged that the child might have breathed before it was completely born—that is, before it became a subject capable of coming within the technical definition of murder; many years ago the inferential physical test, based upon the performance of the respiratory function, known as docimasia pulmonum was derided as "that hydrostatic humbug." The third view of "separate existence," which several modern judicial statements have favoured, has been that in order to inaugurate such an independent being in law the circulations of the mother and of the child must be distinct. All such legal pronouncements are somewhat reminiscent of a pristine physiology and exhibit a confused knowledge as to the exact nature of the symbiotic relations of the respective circulatory systems before birth; physically, if not physiologically, it may be said that these systems, both originally and finally, are as separate as that of the sitting hen from that of the hatching chick within the egg-shell. To add to this apparent diversity of judicial opinion it may be said, from the physiological standpoint, that no child really commences its separate existence until it breathes, for until that act it is merely surviving on the nutriment already acquired by osmosis and diffusion from the mother's uterine blood-stream; hence children who have been completely born in an asphyxiated condition and who have been subsequently revived, with or without artificial aid, may be said to have commenced a real independent existence only concurrently with the first inspiration; conversely, any child gasping for air, whether in the outside world or in utero or in vagina, proclaims by that very respiratory act that it is announcing its true separate physiological existence. The fourth view, and

"Helen Graham Chalmers and Her Mother" (300), is full of light and air and colour. In Gallery No. 5 Mr. C. W. Wyllie's (347), also called "The Return," is worthy of close study and comparison with Mr. Brangwyn's treatment of a similar idea; and Mr. Sims in (361) has, we are glad to say, captured the Chantrey Fund by "The Fountain," a study of falling waters, light, and nymphs, which shows the artist in the best sense to be truly νυμφόληπτος. Our space is too limited to allow us to do more than mention a few of the remaining pictures. In (417) Mr. George Henry has a charming portrait study which he calls "Silk and Ermine," and another striking portrait is (433), H.H. the Maharajah Orocha, by Mr. Herbert Olivier. Mr. George Harcourt (480) exhibits a brilliant piece of work entitled "Supper in Summer Time." In the room popularly known as the "Gem Room" Miss C. M. Wood has a very clever study of the splendid colours shown by various copper ores (683). Two adjoining pictures in Gallery No. 10 should on no account be missed, these being Nos. (877) and (878), by Mr. Raven Hill and Mr. G. Sherwood Hunter respectively, the former being a study of a lady seated in subdued light at a piano, and the other a Brittany "First Communion" with a charming effect of light from a hundred candles mixing with the daylight. Mr. E. A. Hornel in (897) has a picture singularly reminiscent of his exhibit in the New Gallery, and in (975) Mr. W. W. Ouless shows a good portrait of Mr. Pridgin Teale. Of the water-colours we have only space to notice the President's little picture of Amat Forest, Ross-shire.

Of the sculpture we must first mention (1848) Mr. Herbert Frampton's bust of Dr. J. Hughlings Jackson, which is to be placed in the Hospital for Epilepsy and Paralysis, Queen-square, Bloomsbury, London, W.C. Mr. F. Lynn Jenkins' group (1851), "The Ides of March," shows well the lifelessness of Cæsar's body as opposed to the two senators straining to support it. Other notable statues are (1820) Mr. Harold Parker's "Ariadne" and (1974) Mr. Bertram Mackennal's "Diana," two beautiful nudes which have been acquired for the nation by the Chantrey Fund, which has also rightly acquired Mr. C. L. Hartwell's vigorous little bronze of elephants which he calls "A Foul in the Giants' Race." Lastly, we must mention (1973) Mr. Goscombe John's model of altar tomb and effigy of the late Marquis of Salisbury, and (1976) Mr. F. Derwent Wood's "Psyche." On the whole we consider that this year's Academy exhibition is one of the most interesting of those which have been held during recent years.

BRITISH MEDICAL BENEVOLENT FUND.

AT the April meeting of the committee 20 cases were considered and grants amounting to £202 were made to 18 of the applicants, two cases being postponed for further inquiry. Three vacancies for annuitants of £20 were filled by selected candidates. Appended is an abstract of the cases relieved:—

Daughters, aged 54 and 47 years, of late M.R.C.S. Since loss of means some years ago through the dishonesty of a trustee applicants have supported themselves by acting as companions, &c., but just at present have no engagements. Voted £10.

L.R.C.P., L.R.C.S. Edin., aged 48 years. Had one eye enucleated 12 years ago and has since lost sight in the other. No income. Wife lets lodgings. Five children, aged 13 to eight years. Voted £18.

Four children, the eldest 13 years and the youngest one month, who have lost both parents during the current year. Are given a home by maternal grandfather, a clergyman with small means and a large family. Voted £10, with leave to apply again in six months.

Daughter, aged 65 years, of late M.D. Lond. Only income £4 a year from savings during 40 years of teaching. Now endeavours to support herself by knitting and needlework. Voted £12.

Daughter, aged 57 years, of late L.S.A. Lets lodgings and has to support a sister incapacitated by ill-health. Voted £12.

Daughter, aged 31 years, of late L.R.C.P., L.R.C.S. Edin. Has maintained herself as a nurse-companion but is now incapacitated by rheumatoid arthritis. No income. Voted £10.

Widow, aged 57 years, of M.D. Edin. Has a post as housekeeper but at present has to support a daughter who is temporarily incapacitated. Voted £5.

Widow, aged 60 years, of M.R.C.S. No income. Children unable to help and health very bad. Relieved twice, £24. Voted £12.

Widow, aged 45 years, of L.R.C.P., L.R.C.S. Edin. No income. Two sons who are sailors only just self-supporting. Health very indifferent. Relieved four times, £39. Voted £12.

Daughter, aged 58 years, of late M.R.C.S., who was an annuitant of this Fund. Is given a home in exchange for services as working housekeeper, but receives no salary. Relieved seven times, £108. Voted £10.

Daughter, aged 58 years, of late M.D. Aberd. Endeavours to support herself by teaching music, but finds increasing difficulty in obtaining pupils. Relieved once, £10. Voted £10.

Widow, aged 53 years, of M.B. Aberd., whose means were exhausted by a long illness which preceded his death. For some time past applicant has held a post as nurse-companion but has been obliged to give it up on account of ill-health and at present is incapacitated. Children just self-supporting. Relieved once, £5. Voted £10.

L.S.A., aged 60 years, is incapacitated by paralysis agitans. Only income £30 a year from Epsom College. Four children, aged 18 to 12. Relieved twice, £36. Voted £18.

Widow, aged 59 years, of M.R.C.S. No income. Slight help from children; health indifferent. Relieved ten times, £111. Voted £12.

Daughter, aged 69 years, of late M.R.C.S. Has supported herself for many years as a governess. Now dependent on a small weekly allowance from a benevolent institution. Relieved once, £12. Voted £12.

Widow, aged 47 years, of M.B., C.M. Edin. Income £16 a year, and is allowed a small weekly sum by a relation. Takes boarders. Seven children, of whom six are still at school; health indifferent. Relieved nine times, £102. Voted £12.

Widow, aged 48 years, of M.R.C.S., L.S.A. Has been a housekeeper for some years, but salary has been insufficient for the bringing up of her two children, who are still barely self-supporting. Relieved nine times, £110. Voted £5.

Daughter, aged 62 years, of late M.R.C.S. No income; occasional slight help from friends. Relieved once, £12. Voted £12.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between April 25th and May 1st by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscriber of Five Guineas.

C. Theodore Williams, London.

Subscriber of Three Guineas.

Wimbledon and District Medical Society, per D. Finlay.

Subscriber of Three Pounds.

Leigh Division B.M.A., per J. S. Martin.

Subscribers of Two Guineas.

Sir T. Clifford Allbutt, Cambridge.
John Fawcett, London.
J. Dundas Grant, London.
John S. Griffiths, Bristol.
W. T. Lister, London.
Rochdale Division B.M.A., per James Melvin.
Harold J. Stiles, Edinburgh.

Subscriber of Thirty Shillings.

Gibraltar Division B.M.A., per L. D. Parsons.

Subscribers of One Guinea.

W. Bligh, Caterham Valley, Surrey.
W. A. Bond, London.
Byrom Bramwell, Edinburgh.
A. T. Brand, Driffield.
Alex. Brownlee, Cardiff.
R. J. Coulter, Newport, Mon.
D. Dewar, Stanley, Co. Durham.
Paul M. Chapman, Hereford.
J. Charles Edwards, Aberfan, Glam.
Henry Edwards, Port Dinorwic, N. Wales.
Thomas A. Munro Forde, Southsea.
T. J. Frost, Llanhilleth.
E. Hosking, Turner's Hill, Sussex.
J. C. W., London.
D. Rhys Jones, Cardiff.
Robert Lawford Knaggs, Leeds.
D. Martin, Liverpool.
T. C. Pagden, Horley, Surrey.
William E. Peck, Hastings.
B. Rix, Tunbridge Wells.
C. W. Sharpley, Ulceby, Lincolnshire.
Michael Sheehy, Brynmawr, Breconshire.
Elizabeth Wilks, London.

Subscribers of Half-a-Guinea.

Raglan W. Batten, Gloucester.
W. Hartley Bunting, Birmingham.
Edward Buxton, Great Crosby.
T. H. C. Derham, Preston.
W. G. Evans, New Quay, Cardigan.
Alfred Freer, Stourbridge.
James Melvin, Rochdale.
John Rigg, Preston.
C. W. Stevenson, Arnold, Notts.
E. H. Worth, London.

Subscribers of Ten Shillings.

Eric Evans, Cardiff.
John S. Goyne, Earswich, York.
R. W. W. Henry, Leicester.
R. C. B. Holland, Matlock.

Subscribers of Five Shillings.

H. Durbridge, Matlock.
R. S. C. Edleston, Baslow.
C. W. Evans, Bakewell.
P. S. Fentem, Bakewell.
Thomas Fentem, Bakewell.
J. L. Fletcher, Winster.
J. Hoole, Parwich.
R. H. Jackson, Bakewell.
H. W. G. Lander, Hathersage.
J. A. Lee, Fyam.
H. W. Moxon, Darley Dale.
W. Moxon, Matlock.
A. L'Estrange Orme, Darley Dale.
T. H. Parke, Tideswell.
F. H. Pearce, Redhill, Surrey.
J. B. Tindall, Preston.
Edward Wrench, Baslow.

Subscriber of Half-a-Crown.

F. A. L. Burges, Birmingham.

ASSOCIATION OF SCOTTISH MEDICAL DIPLOMATES.—The annual dinner of this association will be held at the Hotel Waldorf, Aldwych, London, W.C., on Tuesday, May 26th, at 7.15 for 7.30 P.M., under the chairmanship of the President, Dr. David Walsh. Ladies are invited and any holder of a Scottish qualification will be welcomed. Tickets, 10*s.* 6*d.* each (exclusive of wine), may be obtained from the honorary secretary, Dr. Arthur Harries, 11, Chandos-street, Cavendish-square, London, W.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 8th, 1830.

INVENTION OF THE DILATOR.

To the Editor of THE LANCET.

SIR,—I beg leave, through the medium of your publication, to make a few remarks upon a little instrument which has been ycleped the dilator, and which has been assumed as their own invention by certain persons, without reasonable confession of the original suggester. This instrument has been pompously introduced into a late publication on *mechanics*, and ostensibly constitutes the ground-work of a publication, in which it is represented as a personal discovery. In 1811, on the way home from the East Indies, I had a gentleman under my charge who was troubled with stricture. In the course of reflection on the subject, it occurred to me, that it would be very possible to make an instrument which could be dilated, or widened, at any given point of its length, or that a greater or shorter extent of its length might be made capable of dilatation, either abruptly or gradually, from the cylindrical portion of the instrument. I illustrated a tool of this kind upon paper, and mentioned of what materials it might be constructed, *to the person* referred to; he instantly perceived the possibility of such a contrivance, and that it might be more or less serviceable. On my return to Britain, I intended to have said something on the subject in a periodical publication, but I concluded that it would not be particularly beneficial, and would lead only to quackery and humbug. I saw also a number of objections which might be instituted against it, and therefore very considerable probability of its comparative uselessness. On reaching London, in the summer of the same year, I mentioned the plan to the author of the Elements of Mechanics and Medical Physics, and stated, expressly, several substances of which the dilator might be composed. He appeared to catch at the suggestion with eagerness, and, if I mistake not, immediately entered it in a memorandum. For some reason, perhaps the "*fidem dabo*," he must have conveyed the hint to his brother (who has published a book on this trifle), as the former durst not avowedly be concerned in the thing himself. I believe it has done some good to the two brothers, but none to *its legitimate father*. *The original* proposer, actuated by sincerity and honesty of principle, declined executing his design, and has not obtained even the *concession* of an acknowledgment.

A. SIMPSON, M.D.

Great Russell Street, April, 1830.

MEDICINE AND THE LAW.

Medical Fees: an Important Decision.

AT Ulverston (Lancashire) county court on April 23th Judge Steavenson gave an important judgment that cannot fail to be of interest to medical practitioners generally. The plaintiff was Mr. R. H. Beardsley of Grange-over-Sands and he sued Mrs. Willan of Holme Island for £80 17s. 6d. for medical attendance and medicines. The defence was that more visits had been paid than were necessary and that the charges for the same were unnecessarily high. It was given in evidence that Holme Island was rated at £165 gross and £140 net. Dr. A. Carmichael of Barrow-in-Furness said that in his opinion the plaintiff's account was a reasonable one and that 10s. per visit, with medicines extra, was a proper charge to make for attendance at a house of the description of Holme Island. Dr. R. O. Bowman of Ulverston gave similar evidence and Dr. R. G. Alexander of Halifax, who had been called in in consultation with plaintiff, said that the defendant was very ill indeed at the time when he saw her and that the visits paid were not too numerous but were absolutely necessary. It was owing to the skill with which she had been treated that she was alive now. Mr. Beardsley supported his account in evidence, giving particulars showing that for ordinary visits 10s. had been paid and for consultations £1 1s. plus the ordinary 10s. charge, which he always considered was the proper charge to make for a consultation. In reply to the judge the plaintiff said that he was not a Licentiate of the Society of Apothecaries. He was a Licentiate of the Royal Colleges of Physicians and Surgeons, Edinburgh, and a Licentiate of the Faculty of Physicians and Surgeons, Glasgow. It was stated that £50 had been offered in payment of the account and refused, and that as to £5 5s. of the claim, if the defendant pleaded the Statute of Limitations, it was statute barred. For the defence Dr. R. Lowther and Mr. O. Gwatkin medical practitioners at Grange-over-Sands were called and said that in their opinion the account was unreasonably high. They admitted, however, that they did not consider 10s. a visit and the charge for medicines unreasonable, considering that Holme Island was one and three-quarter miles from the plaintiff's surgery and that Mr. Beardsley had by stipulation to attend at 10.30 each morning which would doubtless be inconvenient to him and disarrange his ordinary work. Judge Steavenson delivered a considered judgment after the luncheon interval. He said he considered from the evidence that 10s. per visit was a proper charge, considering the value of the house, its distance from the plaintiff's surgery, and the stipulation that he was to attend the patient at a particular time. He accepted the evidence of Dr. Carmichael that a consultation fee was double the ordinary fee, which in this case must therefore be fixed at 20s. He did not consider the qualifications held by Mr. Beardsley entitled him to charge for medicines and that part of the claim must come out. The claim would be reduced by £11 14s. 3d. for medicines and excess charged for consultations, and the £5 5s. that was statute barred, leaving a balance of £63 18s. 6s. £50 had already been paid—being in the hands of the plaintiff's solicitor—so he therefore gave judgment for £13 18s. 6d., with costs on the higher (B) scale, with allowances for witnesses.

"The Separate Existence" of the Newly Born Child.

At the recent discussion on Infanticide at the Medico-Legal Society several speakers referred to the ingenuity and quibbles of defending counsel which made it impossible, in connexion with a charge of infanticide, to determine, in the absence of the direct evidence of an eye-witness, whether a child had had "a separate and independent existence" before its life ceased. "A separate and independent existence" has been ruled in court at different periods to indicate at least four physiologically different conditions. The first and simplest requirement is the physical separation of the body of the child from the body of the mother, so that the child is wholly born into the world and is thus a full subject of the King; in this connexion it has been decided that the umbilical cord need not have been severed. The second view, which in practice was accepted for many years, was tested by the question: "Has the child breathed?" The fallacy of this test was insisted upon by those who alleged that the child might have breathed before it was completely born—that is, before it became a subject capable of coming within the technical definition of murder; many years ago the inferential physical test, based upon the performance of the respiratory function, known as docimasia pulmonum was derided as "that hydrostatic humbug." The third view of "separate existence," which several modern judicial statements have favoured, has been that in order to inaugurate such an independent being in law the circulations of the mother and of the child must be distinct. All such legal pronouncements are somewhat reminiscent of a pristine physiology and exhibit a confused knowledge as to the exact nature of the symbiotic relations of the respective circulatory systems before birth; physically, if not physiologically, it may be said that these systems, both originally and finally, are as separate as that of the sitting hen from that of the hatching chick within the egg-shell. To add to this apparent diversity of judicial opinion it may be said, from the physiological standpoint, that no child really commences its separate existence until it breathes, for until that act it is merely surviving on the nutriment already acquired by osmosis and diffusion from the mother's uterine blood-stream; hence children who have been completely born in an asphyxiated condition and who have been subsequently revived, with or without artificial aid, may be said to have commenced a real independent existence only concurrently with the first inspiration; conversely, any child gasping for air, whether in the outside world or in utero or in vagina, proclaims by that very respiratory act that it is announcing its true separate physiological existence. The fourth view, and perhaps the most practical and satisfactory of all, is that any newly born infant who exhibits muscular contractions—be they of the heart and blood-vessels, the chest, the lips, or even of the thumbs or little toes—is to be accounted as "a reasonable creature in being and within the King's Peace," alike for the purposes of the civil and of the criminal law. The present law presumes that a newly born child found dead was born dead—that is, the fact that it lived must be definitely proved if alleged; a century ago it was always necessary for a mother, in the case of her bastard child being found dead, to prove that it was born lifeless, otherwise she was chargeable with having taken its life.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9225 births and 4896 deaths were registered during the week ending May 2nd. The annual rate of mortality in these towns, which had been equal to 15·2 and 15·4 per 1000 in the two preceding weeks, further rose to 15·7 in the week under notice. During the first five weeks of the current quarter the annual death-rate in these towns has, however, only averaged 15·7 per 1000, and in London it did not exceed 15·5 during the same period. The lowest annual death-rates in the 76 towns during the week under notice were 7·4 in Aston Manor, 7·5 in Leyton, 8·0 in King's Norton, and 9·1 in Walthamstow, all being suburban districts; the rates in the other towns ranged upwards to 23·0 in Merthyr Tydfil and in Bury, 23·8 in Hanley, and 25·6 in Swansea. The death-rate in London during the week was equal to 16·0 per 1000. The 4896 deaths in the 76 towns during the week showed a further increase of 116 upon the low numbers returned in the two previous weeks, and included 381 which were referred to the principal epidemic diseases, against 382 and 376 in the two preceding weeks; of these, 128 resulted from measles, 122 from whooping-cough, 52 from diarrhœa, 38 from diphtheria, 29 from scarlet fever, and 12 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases were equal to an annual rate of 1·2 per 1000, corresponding with the rate in each of the two preceding weeks; the rate from the same diseases in London was equal to 1·4. No death from any of these epidemic diseases was registered last week in Leicester, East Ham, Derby, Leyton, Halifax, Wolverhampton, or in 14 other smaller towns; the annual death-rates from these diseases, however, ranged upwards to 3·5 in Preston, 3·7 in Salford, 4·3 in Croydon, and 4·9 in Stockton-on-Tees. The fatal cases of measles in the 76 towns, which had been 127 and 101 in the two previous weeks, rose again last week to 128; the highest death-rates from this disease in these towns last week were 2·0 in Burnley, 2·3 in South Shields, 2·6 in Croydon, 2·9 in Stockton-on-Tees, and 3·5 in Preston. The 122 deaths from whooping-cough showed a further decline from the numbers in recent weeks; they caused death-rates, however, equal to 1·3 in Devonport and in Salford, 1·5 in Bootle and in Warrington, 1·6 in Rotherham, and 2·0 in Sunderland. The 52 deaths attributed to diarrhœa showed a considerable increase upon recent weekly numbers. The fatal cases of diphtheria, however, declined to 38, and were fewer than in any previous week of this year; they included 10 in London, three in Manchester, and two each in Bristol and in Bradford. The 29 deaths from scarlet fever also showed a decline, but included 12 in London, three in Salford, two in Liverpool, and two in West Bromwich. The 12 deaths referred to "fever," including three in Liverpool, were fewer than in any previous week of this year. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 21 preceding weeks from 5581 to 2861, had increased to 2928 on May 2nd; 368 new cases having been admitted to these hospitals during the week under notice, against 297, 328, and 332 in the three preceding weeks. The deaths in London referred to pneumonia and to other diseases of the respiratory organs, which had been 274 and 301 in the two preceding weeks, declined again to 281 in the week under notice, but exceeded by 15 the corrected average number in the corresponding week of the five years 1903-07. The 19 deaths directly referred to influenza in London showed a further decline from the numbers in recent weeks. The causes of 58, or 1·2 per cent., of the deaths registered in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Bristol, West Ham, Leeds, Newcastle-on-Tyne, Nottingham, and in 41 other smaller towns; 10 uncertified causes of death were, however, registered in Liverpool, seven in Birmingham, and three both in South Shields and in Gateshead during the week under notice.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·4 and 18·8 per 1000 in the two preceding weeks, was 18·7 in the week ending May 2nd, and exceeded by 3·0 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns, the death-rate during the week under notice ranged from 14·4 and 14·8 in Paisley and Leith, to 20·9 in Glasgow and 23·7 in Perth. The 658 deaths in these eight towns were fewer by five than the number in the previous week, and included 68 which were referred to the principal epidemic diseases, against 77 in each of the two preceding weeks; of these, 24 resulted from measles, 20 from whooping-cough, 13 from diarrhœa, five from "fever," and three both from scarlet fever and diphtheria, but not one from small-pox. These 68 deaths were equal to an annual rate of 1·9 per 1000, the mean rate from the same diseases in the 76 English towns during the same week not exceeding 1·2. The 24 fatal cases of measles in the Scotch towns showed a further decline of 10 from the numbers returned in recent weeks, and included 13 in Glasgow, five in Edinburgh, three in Paisley, and two in Aberdeen. The deaths from whooping-cough, on the other hand, which had been 13, 18, and 12 in the three preceding weeks, rose again to 20 last week, of which 11 occurred in Glasgow, three in Edinburgh and in Aberdeen, and two in Dundee. Of the 13 deaths attributed to diarrhœa nine were returned in Glasgow. The five deaths referred to "fever" were all certified as cerebro-spinal meningitis, and all occurred in Glasgow. The three fatal cases of scarlet fever corresponded with the number in the previous week, while the three referred to diphtheria showed a decline of four, and included two in Glasgow and one in Paisley. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 121 and 113 in the two preceding weeks, further declined to 107 in the week under notice, and were 20 below the number returned in the corresponding week of last year. The causes of 25, or 3·8 per cent., of the deaths in these eight towns during the week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 1·2 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 23·1 and 21·1 per 1000 in the two preceding weeks, rose again to 21·9 in the week ending May 2nd. During the first five weeks of the current quarter the death-rate in Dublin averaged 22·9 per 1000; the mean rate during the same period did not exceed 15·5 in London and 16·0 in Edinburgh. The 166 deaths of Dublin residents registered in the week under notice showed an increase of six upon the number returned in the previous week, and included ten which were referred to the principal epidemic diseases, showing an increase of three upon the number in each of the two previous weeks. These ten deaths were equal to an annual rate of 1·3 per 1000, the rate during the week from the same diseases being 1·4 in London and 1·3 in Edinburgh. Of these ten deaths from epidemic diseases in Dublin three resulted from whooping-cough, three from diarrhœa, two from diphtheria, and one each from "fever" and measles, but not one either from scarlet fever or small-pox. The two fatal cases of diphtheria were the first recorded in Dublin since the middle of March. The 166 deaths from all causes in the city during the week included 28 of infants under one year of age and 46 of persons aged upwards of 60 years; both these numbers exceeded those in the previous week. Six inquest cases and three deaths from violence were registered, and 75, or 45·2 per cent., of the deaths occurred in public institutions. The causes of three, or 1·8 per cent., of the deaths registered in the city during the week under notice were not certified; the causes of all the 1474 deaths in London last week were duly certified, while in Edinburgh 6·0 per cent. of the causes of death were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified :—Fleet-Surgeons: J. H. Stenhouse to the *President*, additional, for Greenwich Hospital School and R.N. College; W. Bett to the *Leviathan;* E. S. M. Nepean to the *Victory*, additional, for Portsmouth Dockyard; and J. Shand to the *Africa*. Staff-Surgeons: R. D. Jameson to the *President*, additional, for three months' course at the Dreadnought Hospital; F. H. Nimmo to the *Alexandra*, on commissioning; F. R. Mann to the *Excellent;* and H. W. M. Rees to the *Orion*. Surgeons: R. H. St. B. E. Hughes to Malta Hospital; W. C. B. Smith to the *Vernon*, additional, for the *Niger;* A. D. C. Cummins to the *Dreadnought;* and R. W. B. Hall to the *Enchantress*.

ROYAL ARMY MEDICAL CORPS.

Major George Dansey-Browning, from the Seconded List, to be Major (dated April 5th, 1908).

The following officers have been attached to the depôt at Aldershot for a special course of instruction under Major J. D. Ferguson, Chief Instructor :—Captain C. P. Connolly, Captain H. H. Kiddle, Captain R. H. Lloyd, Captain W. A. Woodside, and Lieutenant J. C. L. Hingston.

Captain A. J. W. Wells has been posted to the Cambridge Hospital, Aldershot, for duty. Lieutenant-Colonel W. Rowney has been appointed Medical Officer in charge of the Connaught Hospital, North Camp, Aldershot, and to command No. 2 Company.

DEATHS IN THE SERVICES.

Deputy Surgeon-General William Silver Oliver, A.M.D., retired pay, at Farnborough Park recently, aged 72 years. He entered the service as assistant surgeon in 1857; became surgeon in 1872; surgeon-major in 1873; brigade-surgeon in 1882; and retired with the honorary rank of deputy surgeon-general the following year. He served in the campaign in Rohilkund in 1858, including the actions of Bugawalla and Nugena, the relief of Moradabad, the action on the Dojura, the assault and capture of Bareilly, the attack and bombardment of Shahjehanpore, the capture of Fort Bunnai, the pursuit of the enemy to the left bank of the Goomtee, the destruction of Fort Mahomdee, the attack on and destruction of Shahabad, and the action of Bungkagong. He also served in the Oude campaign, including the actions of Pusgaon and Rissoolpore, the attack and capture of Fort Mittowlie, and the actions at Mehundee and Biswah (mentioned in despatches and medal). He served with the 1st Battalion 60th Rifles in the Red River Expedition in 1870.

THE SPECIAL RESERVE OF OFFICERS.

A special Army Order containing a Royal Warrant has recently been issued authorising the formation of a Special Reserve of Officers and a further step has consequently been taken towards the organisation of the Special Reserve. The Army Order in question dealing with all branches of the service is necessarily a long one, but it contains many points directly bearing upon the Royal Army Medical Corps and should consequently be consulted by those whose interests may become affected. The following paragraphs should be noted :—

> RETIREMENT.
>
> An officer appointed to our Royal Army Medical Corps *or* Army Veterinary *Corps shall relinquish his* commission on reaching the age of 55.
>
> EMOLUMENTS IN TIME OF PEACE.
>
> Servant allowances shall not be issuable except to an officer of our Royal Engineers, Army Service Corps, Royal Army Medical Corps, or Army Veterinary Corps, who is attending an authorised course at a school of instruction where a soldier servant cannot be provided.
>
> On being gazetted to a commission on probation a Special Reserve officer shall be granted an outfit allowance of £20, if on probation for our Army Service Corps, Royal Army Medical Corps, or Army Veterinary Corps, provided that he shall undertake in writing that, in the event of his failing from any cause to complete a period of four years' service in the Special Reserve from the date of joining, he will refund one-fourth of the allowance for each year or portion of a year by which his service falls short of such period. In cases of sickness *the* refund, or a part thereof, may be waived at the discretion of our Army Council. This allowance shall not be granted to any officer who is a candidate *for* a permanent commission on the active list of our Regular Forces.
>
> After the date of this Warrant no further commissions will be granted in the Army Medical Reserve under the conditions of Articles 640-644 of the Pay Warrant, 1907.

ROYAL ARMY MEDICAL CORPS CAMPS.

A camp of instruction for the Royal Army Medical Corps is to be formed at Salisbury Plain on June 1st, lasting for about six weeks. The previous camps for the Royal Army Medical Corps have proved so successful in a training sense that they will now be held annually. A camp of instruction for the field training of the Royal Army Medical Corps will also be held at Bulford from June 1st to July 11th. The approximate strength of the party undergoing instruction will be ten officers and 182 of other ranks drawn from the various out-stations of the Southern Command.

Correspondence.

"Audi alteram partem."

EPILEPSY AND MIGRAINE.

To the Editor of THE LANCET.

SIR,—In view of the recent publication of Sir W. Gowers's lectures on the Borderland of Epilepsy, the following cases illustrative of an intimate relationship between migraine and epilepsy may be of interest :—

CASE 1.—A woman, aged 42 years, on the appearance of the catamenia at the age of 15 years, began to suffer from fits of an epileptic character, which continued on an average once a month, till the age of 21 years, when they ceased altogether. Usually before the onset of the fit she suffered from headache. On the cessation of the fits, however, the headaches became more and more frequent and gradually assumed a definitely migrainous character. When an attack occurs she usually wakes early in the morning with her head feeling like an iron ball and the shoulders and neck as if in an iron vice, then she sees silver specks and zig-zag lines before the eyes, followed by severe pain in the forehead and vomiting a few hours later, after which she is quite well again. Thus migraine has become the predominant feature of a case originally epileptic. The more usual sequence of events, however, is for a patient with migraine to become epileptic. In this case the father and a paternal aunt suffered from gout, a common antecedent of migraine.

CASE 2.—A woman, aged 25 years, when 19 years old, had an epileptic fit for the first time, following a fright. Since then she has had a fit on an average every four months and once as many as ten in a day. The aura preceding the fit is peculiar in that it lasts about an hour and is of a migrainous type; then there are zig-zag lines of flame in front of the left eye, which then pass to the right, the left arm feels drawn and the left heel as if glued to the ground. This condition lasts for about an hour, during all which time she has a severe headache across the eyes and back of the head. After the fit she always vomits and is free from headache. The case shows a curious blending of epilepsy and migraine. Both the duration and character of the aura seem to be migrainous and the vomiting belongs to migraine rather than to epilepsy. It would seem as though an ordinary attack of migraine were interrupted, so to speak, by the motor phenomena of epilepsy. On the other hand, since the commencement of these attacks the patient has become very irritable, a feature suggestive of epilepsy, not of migraine.

CASE 3.—A woman, aged 19 years, when 11 years old, began to suffer from epileptic fits which continued for a few months. At the age of 17 years she began to have headaches of a migrainous character, waking up in the morning with a visual spectra—teichopsia, half an hour later she has a headache lasting 12 hours, followed by sickness. These attacks occur about once a fortnight. Lately the epileptic seizures have begun again and exhibit almost as marked a periodicity as the migrainous headaches, always beginning about 5 A.M. and seeming to take the place of the sensory attack. The father suffers from asthma, a disease which has affinities with both epilepsy and migraine.

CASE 4.—A boy, aged six years, for the last three years has suffered from paroxysms of headaches once a week. The headache generally begins in the forenoon, gradually growing worse towards the evening; usually he is sick at an early stage of the headache and before being sick he says that everything seems "to go red in front of him." The following day he is tired and languid, but there is no headache. Within the last few months he has had two epileptic fits and the paroxysmal headaches have become less frequent. Often on the evening prior to the migrainous attacks he has had an attack of night-terrors, which are sometimes suggestive of epilepsy.

Some observers have noticed instead of the usual periodicity of migraine a continual succession of the attacks which has been called the "status hemicranicus" by the school of Charcot, on the analogy of the "status epilepticus." Möbius quotes a case in which the patient had five attacks of migraine in five successive days. After an interval of some months there was another series, which led to a kind of stupor, and finally there was a third series consisting of nine attacks in four days; at the same time there was a complete hemiplegia.[1] Kraft-Ebing speaks of epileptic hemicrania and hemicranial epilepsy having the same visual aura and seems to imply that there is but one disease, though sometimes migrainous, at others epileptic symptoms predominated in a given case; he says that the visual aura may occur alone or end in a hemicranical or epileptic attack or both.[2]

I am, Sir, yours faithfully,

Green-street, W., May 4th, 1908. R. O. MOON.

WORTH'S ADVANCEMENT OPERATION.

To the Editor of THE LANCET.

SIR,—I have at least as great an objection to *ex cathedrâ* statements as Mr. Claud Worth and I may point out that anonymity finds its justification in the elimination of personal motives which are, at any rate, absent in the present instance. The fallacy which in my opinion characterises Mr. Worth's in common with many other advancement operations is that in the ordinary operation the stitches tear out through the muscle and thus lead to an unsatisfactory result. I am convinced that failure is not due to the stitches tearing out through the muscle, which is supported by resistant connective tissue, but to their giving way at their anterior attachment. Here, unless a firm hold is obtained upon the episcleral tissue the stitch is almost certain to cut out, no matter how secure may be its attachment to the muscle. Mr. Worth has mentioned the chief objection to his operation, and if it is carefully considered it is no small one. His knots strangle the lateral parts of the muscle which must necessarily atrophy and are further lacerated in removing the stitches. For my part I am convinced that the secret of success in advancement operations is obtaining a firm hold on the episcleral tissue. I do not propose to pit any individual surgeon's practical experience against Mr. Worth's, for in such matters there is but little faith to be put in personal authority. It is the duty of every surgeon to weigh the advantages and disadvantages of any given procedure and to adopt the method which appears to him to be best.

I am, Sir, yours faithfully,

May 2nd, 1908. *YOUR REVIEWER.*

THE ROYAL SOCIETY OF MEDICINE AND THE MEDICAL SOCIETY OF LONDON.

To the Editor of THE LANCET.

SIR,—I should like to suggest through the medium of your columns, to the Fellows of the Medical Society of London, that the time has come to consider further whether they are acting in the best interests of the society as a whole in holding aloof from union with the Royal Society of Medicine.

The reasons, so far as one could gather, which led to their attitude at the time of the inception of the latter society were mainly financial but I think that the remarkable success which has attended the formation of the Royal Society must have put any question of its financial stability quite out of court, while sentimental considerations which may not unnaturally have weighed with the older members should not be allowed to assume an undue prominence. Apart from my own personal feelings, conversation with other Fellows of the society has shown me that a strong feeling exists (which in many cases will develop into withdrawal from membership) that the interests of the society and of its members would have been better served by union, and certainly the opinion of the Fellows which was taken by means of postcards showed a very large majority in favour of amalgamation. The general meeting which was called to consider the question was, however, chiefly attended by the opponents of the scheme, very many of its advocates failing to attend from a belief that amalgamation was a foregone conclusion.

There is no doubt that the majority of those who favoured union will, like myself, still stick to the Medical Society, but there can hardly fail to be a serious falling off in the number of new members, since the Royal Society is able to offer so much more to its Fellows, while the Medical Society can offer little if anything which cannot be obtained by the Fellows of the amalgamated societies.

I would therefore suggest that the matter should be reconsidered while this can be done without loss of dignity, and that no pains should be spared to ascertain the opinion of the whole of the Fellows of the society, and I hope that other Fellows of the society will publish their views on this question. I am, Sir, yours faithfully,

Buxton, May 3rd, 1908. CHARLES W. BUCKLEY.

A NOTE ON THE TREATMENT OF DIPHTHERIA.

To the Editor of THE LANCET.

SIR,—No remedy is more sorely needed than one which will relieve the distressing condition of heart paralysis in diphtheria. Several years ago Dr. J. D. Rolleston[1] warmly recommended adrenalin in this affection, and Dr. F. G. Crookshank has found occasion in your issue of April 25th to reaffirm his own convictions as to the great benefit of this treatment. In view of the importance of the question at issue it would not be right to allow these statements to pass without a thoroughly critical examination of the remedy suggested.

In the first place Rolleston's observations on the prophylactic and stimulant effect of the drug must have been received with some surprise, since the method of administration was by the mouth, and it is generally understood that by this channel the drug is practically inert, being either altered or unabsorbed. Dixon[2] found that, given by the mouth, adrenalin had no effect upon the blood pressure, even after the administration of one drachm—six times the maximum dose recommended. From experimental evidence, then, it seems most unlikely that any effect whatsoever is produced. Practically, I have given the drug a very fair test. In the course of a close study of the heart complications in more than 500 cases of diphtheria at Nottingham I had occasion to test the effect of adrenalin and several other cardiac tonics. Rolleston's directions were faithfully followed but nothing but negative results were obtained, the disease always pursuing its normal course, sometimes with bradycardia and low blood pressure and sometimes ending in collapse. It was evident, however, that the rise in blood pressure and pulse-rate that regularly occurs after the first week or so in hospital might easily be wrongly attributed to the effect of some cardiac tonic. I am aware, however, that Dr. Crookshank, while endorsing Dr. Rolleston's results, prefers hypodermic injections, combining the adrenalin with a little strychnine. But again we have the testimony of Dixon,[3] Janeway, Elliott, and others that the action of adrenalin injected subcutaneously is purely local, except in very large doses. Upon these two suggested improvements in his methods we might justifiably turn some soundly practical but drastic criticisms employed by Rolleston[4] himself in a similar connexion. Of the frequent hypodermic injection he hints that it is an "unjustifiable annoyance, since it interferes with the euthanasia which it is our duty to promote." And of strychnine—that "you might as well paint the bed with it!" I might continue in the same happy vein and say of adrenalin something about its perfect harmlessness as a beverage.

As regards early heart paralysis and the inutility of cardiac stimulants it must be remembered that "cardiac depression" is a very misleading term to apply to this condition. It is not depression but actual *destruction* of tissue from which the heart suffers. This destruction is apparently progressive, as in other diphtheritic paralyses, and reaches its acme about the ninth or tenth day, as evidenced by appearances post mortem and by the fact that at this time the blood pressure and pulse-rate both reach their lowest points and the greatest number of deaths occur. All depressing toxic substances are presumably long since neutralised. I have little doubt from a keen study of these phenomena that the bradycardia of this period is Nature's rest-cure and, moreover, a contrivance for eking out the energies of the heart wall lest they should be spent before this danger-point is

---

[1] Nothnagel's Pathologie, vol. xii.

[2] Neurologisches Centralblatt, 1895.

---

[1] See article, Diphtheritic Paralysis, Practitioner, p. 794, vol. ii., 1904.

[2] THE LANCET, March 24th, 1906, p. 826.

[3] Ibid.

[4] Vide supra.

passed by and the processes of repair set in. Flogging on the heart by stimulants, when practically nothing remains to stimulate, can only prematurely deplete its energies; stimulants call forth but do not add to the energies of an organ. For my own part, after witnessing the uselessness of strychnine and other stimulants in several hundred cases, I have treated nearly 400 cases completely without these drugs and my results will compare favourably with any I have seen published. Unless a remedy can be found that will replace destroyed tissue cells with new ones it seems likely that the quest of a remedy for these cases will ever remain a hopeless one.

I am, Sir, yours faithfully,
OWEN H. PETERS, M.D., Ch.B. Melb., D.P.H. Lond.
Mansfield, May 4th, 1908.

FIFTY CASES OF SPINAL ANALGESIA.

To the Editor of THE LANCET.

SIR,—In my article upon Fifty Cases of Spinal Analgesia appearing in your issue of April 11th I made the statement that M. Billon had ceased to manufacture the stovaine solution himself and had handed over the work to a firm in Paris. This statement, which was offered as a possible explanation of what I supposed to be a certain feebleness in the analgesia resulting from the use of a second consignment of the solution from Paris, was made on the strength of what I believed at that time to have been reliable information. It gives me much pleasure to be able to contradict both statement and supposition. M. Billon, who has been courtesy itself in affording me assistance and in placing samples at my disposal, writes to me to say that not only has he never dissociated himself from the work but that he has been, since the beginning of 1907, director of the chemical laboratories of Messrs. Poullenc Frères in Paris, where the manufacture of the solution is entirely under his immediate direction and control. With regard to the supposed difference in strength of the solution above mentioned, I am satisfied by extended experience of the method that this supposition was an entirely mistaken one, and that it was partly due to faulty technique on my part, and partly to the fact that some patients are less susceptible to the drug than others and require a slightly larger dose.

I therefore hasten to offer an apology to M. Billon and beg you, Sir, to give early publicity to it, as I fear that my statement may quite unintentionally have produced a wrong impression and one which might prove detrimental not only to M. Billon himself but to the firm of Poullenc Frères.

I am, Sir, yours faithfully,
Mansfield-street, W., May 2nd, 1903. LAWRIE MCGAVIN.

DEATHS DURING ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—I have been deeply interested in the discussions that have recently appeared in THE LANCET on the subject of chloroform administration. In the letters that have been published many have expressed opinions more or less strongly on the cause of death from chloroform anæsthesia; a smaller number have given the bald details of how they themselves administer it, but no one, so far as I have noticed, has attempted to define or to criticise the underlying principles connected with the various practical methods of its administration. Now, these principles are of the utmost value for comparing the various methods and for devising new and safer methods, and I think that the statements given below must be productive, by means of the discussion I hope they will arouse, of some advance in our knowledge of practical chloroform administration.

The first method which I wish to criticise is one in common use and goes under the name of the "graduated series of drops" system. In this system one drop of chloroform to begin with is put on a piece of lint; after a few seconds two drops are added, then three drops, and so on till a maximum number of drops is reached. It is also recommended that after a short time the lint be allowed to rest lightly on the patient's face. The object is, of course, to begin with a very small dose and gradually increase it to a maximum. At first sight this appears quite rational, but I am convinced that the underlying principle is quite wrong. It is founded on the belief that you can talk of the dose of chloroform in the same practical sense that you can talk of the dose of digitalis or hydrocyanic acid. 15 minims of the tincture of digitalis will have the same effect on the heart, whether it be given in a teaspoonful of water or in a pint, but this is not the case with chloroform administered by inhalation. It is common knowledge that if chloroform be given in concentrated vapour it is much more dangerous than if given largely diluted with air. One drachm administered by one person may produce a fatal result in the same time that one ounce administered by another person does. I am quite aware that if this be reasoned out it will amount to a question of dosage, yet practically it is extremely misleading, especially to students and lay people such as coroners and their juries. The only justifiable term to use is percentage or concentration. Now to return to this graduated drop method, as we are told that after a few minutes the lint may be allowed to rest lightly on the face the system practically amounts to this, that the means of dilution of the chloroform is to remain the same throughout the administration, while the amount of chloroform is to be increased. It is important to grasp this as the principle is exactly the opposite of that in the next method to be described. Now if anyone will take the trouble to try this method on himself he will find that with the lint so close to his face it is almost impossible to get anything but a concentrated vapour even though only a couple of drops are put on the lint, and I am sure this will be greatly to the detriment of the patient's safety.

The other method is one I may say that is used in Edinburgh. The great underlying principle in this method is that the amount of chloroform used remains uniformly the same throughout the administration. Thus an equal amount of chloroform—say, half a drachm—is put on the mask at equal intervals, say, one minute. The varying percentage of chloroform vapour required for the case is got by altering the distance of the mask from the face (from two inches or more to half an inch). This method is the one that seems to me by far the safest, for one has only to try it on oneself with a Schimmelbusch's mask to be convinced that one can adjust the percentage of chloroform vapour inhaled much more accurately than one can by the graduated drop method. This method has been accused, especially by the advocates of the drop method, of being unscientific, but I am sure the above remarks will show that it is essentially scientific and a method thoroughly to be recommended.

I am, Sir, yours faithfully,
April 30th, 1908. M.B. EDIN.

DIRECT MEDICATION OF INTESTINES.

To the Editor of THE LANCET.

SIR,—Metchnikoff's contention that most of the diseases which afflict the human family may be ascribed to the bacterial flora of the large intestine is coming to be considered plausible. Autotoxæmia due to the presence of bacteria in the colon, "that clumsy effort of the evolutionary process," is probably far more common than is generally supposed. The Russian biologist believes that a future age will be able to remedy by surgical procedure the imperfect attempt of nature to provide an efficient *cloaca maxima* for man. Meanwhile intestinal germicides and disinfectants offer a reasonable means of combating some of the evils caused by the parasites in our system. For direct medication of the intestines keratine has long been used to enwrap drugs intended to pass through the stomach unaffected by its acid secretions, but readily soluble in the alkaline juices of the bowels. In the treatment of a case of mucoid colitis I have lately prescribed salol in five grain doses inclosed in membranous envelopes. A great improvement was quickly noticed in the condition of the patient, due, I believe, to the action of the phenol liberated by the disintegration of the salol in the intestines. In my opinion very good results are to be expected in this comparatively fresh field of therapeutics. It would be interesting to experiment systematically with lactic acid as an intestinal germicide.

I am, Sir, yours faithfully,
April 17th, 1903. M.D.

MEDICAL DEFENCE UNION.—The annual general meeting of the Medical Defence Union will be held on May 21st at the Medical Institution, Hope-street, Mount Pleasant, Liverpool, at 4.30 P.M. The annual report of the council, together with the balance-sheet and accounts as certified by the auditors, will be presented to the members and the usual statutory business as required by the articles of association carried out.

THE TWENTY-FIFTH CONGRESS OF INTERNAL MEDICINE.

(FROM OUR VIENNA CORRESPONDENT.)

THE Twenty-fifth Congress of Internal Medicine was opened on April 6th in the large Hall of Ceremonies of the University of Vienna. This was the second meeting of this Congress in Vienna. The first occasion was in 1890, when Professor Billroth and Professor Nothnagel were present, and the words of the former with which he opened the proceedings are true for all time: "Science has but one object—truth combined with clarity; and the duty of the medical practitioner is to apply this combination to the welfare of humanity." The opening scene of the Congress presented an impressive spectacle, and all the meetings, which were continued from April 6th to 10th, were a conspicuous success. Medical and scientific men from all German-speaking countries had assembled to discuss questions of professional interest, a few of the better-known German visitors being Dr. Leube (Würzburg), Dr. Penzoldt (Erlangen), Dr. Stintzing (Jena), Dr. Quincke (Kiel), Dr. Pfeiffer (Wiesbaden), Dr. Hering (Prague), Dr. Lenhartz (Hamburg), Dr. Schwalbe (Berlin), and Dr. Krehl (Heidelberg). The visitors from other countries included Professor William Osler (Oxford), Dr. A. S. F. Grünbaum (Leeds), Dr. Pratt (Boston, U.S.A.), Dr. Poehl (St. Petersburg), and Dr. Turban (Davos). Naturally enough, all the professors of the Vienna Medical Faculty were present and took an active part in the work of the Congress. One of the accessories was an exhibition of objects of medical interest arranged by Professor Schlesinger. The Minister of Education welcomed the Congress on behalf of the Government. After the PRESIDENT, Professor Müller (Munich), had opened the Congress the MINISTER addressed the members, of whom about 500 were present. He said that the Government paid the closest attention to medical matters and he wished the members of the Congress to visit the newly opened clinics in order to satisfy themselves that Vienna was not behind other cities in providing adequate opportunities for medical study. The high position which the Vienna Medical School has hitherto occupied would be certainly maintained now that the old General Hospital was replaced by a modern building and that men of eminence had so many inducements to take up their abode in Vienna. The bürgermeister (mayor) then spoke some words of welcome and invited all the members of the Congress to a banquet given by the city in their honour. The last official speech was delivered by Dr. URIEL, general staff surgeon, who in the name of the Minister of War wished the Congress every success. He said that the Army Medical Corps had been watching with the utmost interest the progress which had been made in practical and scientific medicine during the past few years. The increased knowledge of prophylaxis had caused a revolution in the methods of military sanitation and their application in future wars would result in a great reduction of the mortality incidental to campaigning. The Congress then proceeded to practical work, commencing with the official subjects of discussion.

The Relation of the Female Sexual Organs to Internal Diseases.

After a short address by the PRESIDENT on Specialism in Internal Medicine a discussion on the Relations of the Female Sexual Organs to Internal Diseases was opened by Professor ROSTHORN (formerly of Heidelberg but now of Vienna) and Professor LENHARTZ. The first-named speaker confined himself entirely to anatomical details, only referring to well-known conditions, but his lucid exposition touching on a number of interesting points, principally on the relations of pregnancy to cardio-vascular and renal diseases, was well received by his hearers. Professor Lenhartz, who was the next speaker ("co-referent"), dealt especially with the treatment of gynæcological affections in their relation to internal diseases. He strongly condemned the methods of some surgeons who performed operations which might be avoided; he asserted that in this particular all the eminent gynæcologists were of the same opinion as himself and he added that "polypragmasia" was only too well known in large cities. He maintained that in the majority of cases disorders of the sexual organs were not the cause but symptoms of grave nervous debility, and required not local treatment by a specialist but the use of tonics and measures likely to increase the strength. Symptoms suggesting hysteria or neurasthenia should be carefully analysed before resorting to the knife.

Dr. PLOENIES (Dresden) read a paper on the Relation between Menstruation and Diseases of the Stomach. He had observed that sometimes copious bleeding from the stomach—true hæmatemesis—occurred before and after the regular flow of the menses, and he attributed it to hypertonus of the blood-vessels regulated by the splanchnic and hypogastric plexuses. Diseases of the stomach, such as dilatation, hyperacidity, and nervous irritability, were often increased just before the appearance of the menses. Other observers had seen febrile icterus preceding the menstrual flow by six or eight days.

Dr. TUSZKAI (Marienbad) read a paper on the Relation between Pregnancy and Heart Disease. He said that whilst menstruation in a patient suffering from heart disease was often postponed and belated in the first instance the quantity was increased, and sometimes copious menstruation acted as a safety valve like venesection. The progress of pregnancy in such women was dependent on the degree of compensation and the prognosis was not so bad as was formerly believed. Even five or six labours might occur without the patient breaking down, provided that labour was not too difficult. Where this was to be feared premature labour must be induced before the fœtus had grown too large.

Dr. TURBAN read a paper on the Relation between Pregnancy and Pulmonary Tuberculosis. He said that tuberculosis was prejudicially affected by pregnancy and when the disease had attacked the lungs and was in an advanced stage the puerperium was a source of danger. If a child was born it should not be suckled by the mother. This, however, was not necessary in the case of thin women who were anæmic without being tuberculous.

Some papers on the Appearance of Albumin during Menstruation and of Graves's Disease complicating Gravidity were read but they were of minor importance.

In the afternoon the discussion was continued. Dr. HOFBAUER (Vienna) read a paper on Sexual Asthma. He said that, notwithstanding the absence of the crystals and of bronchitic symptoms, the aggregation of symptoms must be called asthma on account of the changes of the elasticity of the lungs. Acute emphysema had been noticed, caused by increase of the inspiratory volume of air due to lessened contraction of the diaphragm, which was under the influence of the cortex of the brain. X-ray examination was useful in the investigation of these cases.

Dr. SINGER (Vienna) read a paper on Climacteric Diseases of the Bowel. He said that according to his observations in cases of early cessation of the menses, such as at the age of 35 or 40 years, meteorismus was likely to appear, which two symptoms together might cause an erroneous diagnosis of pregnancy to be made. Hæmorrhages from the intestines also appeared sometimes at the climacteric; they were caused by small erosions or ulcerations, mostly situated at the sigmoid flexure which was very often compressed by fæcal accumulations, owing to diminution of the contractile power of the muscular coats of the intestine. These hæmorrhages might lead to a mistaken diagnosis of tumour, but appropriate treatment such as massage, electricity, and aperients would bring about recovery in a few weeks.

On the evening of the first day the members of the Congress were entertained at a banquet provided by the city of Vienna in the Rathhaus which is a magnificent Gothic building. The fine Festsaal or Hall of Ceremonies, one of the largest in Europe, with its 2000 electric lights, presented a splendid spectacle. The company numbered upwards of 500, since many of the medical men had brought their ladies. The bürgermeister, who is himself under medical treatment on account of diabetes with ocular complications, welcomed the guests in a humorous speech, wishing them all success in their endeavours to elucidate the cause of diseases and their treatment for the benefit of all sufferers, himself included. Several toasts were drunk in honour of the Emperor, the Government, and some eminent physicians.

The second day was chiefly occupied, first, by the reading of a paper on

The Present Position of the Pathology and Treatment of Syphilis,

by Professor NEISSER (Breslau), and, secondly, by the ensuing discussion. Professor Neisser said that three important advances had been made by science in the recognition of the nature of this disease—namely, Schaudinn's discovery of the spirochæta pallida as the cause of syphilis, which was now accepted as proved;

Metchnikoff's discovery that apes could be infected with this micro-organism; and Wassermann's discovery that the blood serum of syphilitic persons had a specific reaction. The essential character of syphilis always remained the same and there was no qualitative difference between slight and severe manifestations of the infection. The modern idea was to make a correct diagnosis as early as possible and to begin treatment at the very first opportunity. Intermittent treatment was not advisable. Animals infected with syphilis and treated after seven days with injections of atoxyl might escape infection on account of the spirochæta being killed before the disease had spread in the body. Atoxyl was the best remedy, at least in the lower animals. It must, however, be employed cautiously in men, for blindness has been caused more than once by it. Mercury, iodine, and quinine were also very useful. Patients should be treated with as much mercury as they could tolerate, for the spirochæta could, and must, be killed in the tissues. The expectation of an effective serum treatment of syphilis had not hitherto been realised, but Professor Neisser was convinced that such a method would in time be discovered and that then nothing but the initial stages of syphilis would be seen by medical men, as the later stages would disappear under the new treatment.

An animated discussion ensued on the merits of Wassermann's reaction.

Dr. SALOMON believed that only very pronounced reactions were convincing, because slight or medium results might be obtained in persons suffering only from tumours or tuberculosis.

Dr. SPIEGLER (Vienna) said that he had examined the chemical constitution of syphilitic blood and had found that the proportion of the albuminoid bodies of the serum was variable, whilst in normal blood serum the proportion was always the same.

Professor ZINGER (Vienna) spoke on the inoculation of apes with syphilis. He said that successful inoculations were now the rule and the initial lesions were very similar to those found in the human infection.

Dr. CITRON (Berlin) and Dr. LENZMANN (Duisburg) had had similar experiences.

In the afternoon Dr. HERZ (Vienna) read a paper on

Certain Heart Diseases

the cause of which was found in insufficiency of the space at the disposal of the expanding and contracting heart, especially through the person sitting in a faulty position when engaged in writing, drawing, or other sedentary work. Dentists were often victims to this kind of heart disease from the constantly bent position of the upper part of the body. The action of the heart was insufficient, not from weakness, but because the muscle could not exert its full power owing to its being hemmed in. Diseases of the stomach and the intestinal canal could by pushing the diaphragm up produce a diminished working space for the heart.

Professor EHRMANN (Potsdam) read a paper on the Correlation between Glandular Organs and other Parts of the Body. He has found that the internal secretion of the thyroid and the sexual glands was influenced by the nervous emotions, but, on the other hand, they influenced the nerves as well.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE summer term commenced on April 22nd and at once both the old and the new university buildings were overflowing with active and earnest life, for the summer term brings to a head the work of the year and the culmination is reached when the examinations begin in June; in other words, the time available for the completion of the work which must precede the examinations varies from seven weeks in the cases of some of the arts and science subjects to eight or nine weeks in the medical subjects. With the point of their endeavour so nearly before them the students throw more energy into their work than in the two previous terms and thus the summer term is the most interesting term of the year. In addition to the ordinary class work necessary for admission to examinations Professor T. Turner is to deliver a series of lectures on Metals and Alloys, which are open to the general public, and the Ingleby lectures, which are open to all members of the medical profession, will be delivered on Thursdays, May 7th and 14th, by Mr. Christopher Martin who has chosen as his subject Myoma of the Uterus. A very important change has recently been made in those regulations of the University which deal with the admission of graduates of other universities to the Master's degree. Hitherto a course of two years of study has been demanded from such graduates before they were admissible to the examinations for the Master's degree but the new regulation reduces the period of study to one year. The change has been made with the object of encouraging intercourse between the various universities and with the hope that graduates of other universities may be induced to make use of the unrivalled advantages which can be obtained in Birmingham. It should be clearly understood, however, that the reduction of the period during which the studies must be carried out in Birmingham in no way diminishes the high standard which the candidates have to attain before they are admissible to the Master's degree.

The Birmingham Sanatorium for Consumptives.

At the inquiry concerning the application of the corporation for powers to borrow £8500 for the purpose of erecting a sanatorium at Leckhampton, which was held on Friday last, it was pointed out to the Local Government Board inspector, Dr. H. Timbrell Bulstrode, that it was intended to provide accommodation for 40 patients, and that it was important that the buildings should be finished during the summer so that they might be available for use next winter. Evidence was produced to show that an ample water-supply was available, that the buildings would be practically fireproof, that the sewage would be dealt with by the septic system, and that the effluent would be discharged on to suitable land. So far as the staff is concerned it was stated that, in the first instance, it was the intention of the council to appoint a medical superintendent, a matron, and two nurses, but if this staff proved to be inadequate it would be increased.

The Stamping-out of Glanders.

On Jan. 1st, 1908, the Glanders and Farcy Order came into operation. The Order makes it compulsory for local authorities to destroy all horses, asses, or mules affected with glanders or farcy and to pay compensation out of the local rates. The minimum amount of compensation payable for a clinically diseased animal is £2 for each horse and 10*s.* for each ass or mule, and if the amount of compensation exceeds the minimum it is not to exceed one-fourth of the value of the animal before it became diseased. All horses, asses, or mules believed to have been in contact with diseased animals are to be subjected to the mallein test and those which react in such a manner as to suggest that they are affected are to be slaughtered. When the post-mortem examination shows that the animal was affected the compensation to be paid is to be one-half of the value of the animal immediately before it was tested, but not exceeding £25 for a horse or £6 for an ass or a mule; but if the post-mortem examination fails to demonstrate the disease full value is to be paid, but not exceeding £50 for a horse and £12 for an ass or a mule. The markets and fairs committee reports that the cost falling upon the city under this Order for the period from Jan. 1st to March 31st has been £616 10*s.* The committee expresses its agreement with the Local Government Board regarding the importance of the eradication of the disease and the efficacy of the measures adopted, but considering that the matter is one of national importance it is of the opinion that a substantial part of the cost should have been made a charge upon money provided by Parliament, and it expresses regret that the Government has not sanctioned such a provision. Fortunately Mr. Malcolm, the veterinary inspector, is inclined to think that the worst is over and that the number of cases will be comparatively small in future, and if his prediction is verified it may be considered that a very valuable result has been gained at a comparatively slight cost.

Scarlet Fever in West Bromwich Workhouse.

The West Bromwich board of guardians have very wisely decided to suspend visiting until further notice. The reason for this decision is that scarlet fever has been introduced into the workhouse, apparently by visitors; at least that is the master's opinion, which he justifies by the fact that at the very outset of the outbreak a child was attacked who had

THE TWENTY-FIFTH CONGRESS OF INTERNAL MEDICINE.

(FROM OUR VIENNA CORRESPONDENT.)

THE Twenty-fifth Congress of Internal Medicine was opened on April 6th in the large Hall of Ceremonies of the University of Vienna. This was the second meeting of this Congress in Vienna. The first occasion was in 1890, when Professor Billroth and Professor Nothnagel were present, and the words of the former with which he opened the proceedings are true for all time: "Science has but one object—truth combined with clarity; and the duty of the medical practitioner is to apply this combination to the welfare of humanity." The opening scene of the Congress presented an impressive spectacle, and all the meetings, which were continued from April 6th to 10th, were a conspicuous success. Medical and scientific men from all German-speaking countries had assembled to discuss questions of professional interest, a few of the better-known German visitors being Dr. Leube (Würzburg), Dr. Penzoldt (Erlangen), Dr. Stintzing (Jena), Dr. Quincke (Kiel), Dr. Pfeiffer (Wiesbaden), Dr. Hering (Prague), Dr. Lenhartz (Hamburg), Dr. Schwalbe (Berlin), and Dr. Krehl (Heidelberg). The visitors from other countries included Professor William Osler (Oxford), Dr. A. S. F. Grünbaum (Leeds), Dr. Pratt (Boston, U.S.A.), Dr. Poehl (St. Petersburg), and Dr. Turban (Davos). Naturally enough, all the professors of the Vienna Medical Faculty were present and took an active part in the work of the Congress. One of the accessories was an exhibition of objects of medical interest arranged by Professor Schlesinger. The Minister of Education welcomed the Congress on behalf of the Government. After the PRESIDENT, Professor Müller (Munich), had opened the Congress the MINISTER addressed the members, of whom about 500 were present. He said that the Government paid the closest attention to medical matters and he wished the members of the Congress to visit the newly opened clinics in order to satisfy themselves that Vienna was not behind other cities in providing adequate opportunities for medical study. The high position which the Vienna Medical School has hitherto occupied would be certainly maintained now that the old General Hospital was replaced by a modern building and that men of eminence had so many inducements to take up their abode in Vienna. The bürgermeister (mayor) then spoke some words of welcome and invited all the members of the Congress to a banquet given by the city in their honour. The last official speech was delivered by Dr. URIEL, general staff surgeon, who in the name of the Minister of War wished the Congress every success. He said that the Army Medical Corps had been watching with the utmost interest the progress which had been made in practical and scientific medicine during the past few years. The increased knowledge of prophylaxis had caused a revolution in the methods of military sanitation and their application in future wars would result in a great reduction of the mortality incidental to campaigning. The Congress then proceeded to practical work, commencing with the official subjects of discussion.

The Relation of the Female Sexual Organs to Internal Diseases.

After a short address by the PRESIDENT on Specialism in Internal Medicine a discussion on the Relations of the Female Sexual Organs to Internal Diseases was opened by Professor ROSTHORN (formerly of Heidelberg but now of Vienna) and Professor LENHARTZ. The first-named speaker confined himself entirely to anatomical details, only referring to well-known conditions, but his lucid exposition touching on a number of interesting points, principally on the relations of pregnancy to cardio-vascular and renal diseases, was well received by his hearers. Professor Lenhartz, who was the next speaker ("co-referent"), dealt especially with the treatment of gynæcological affections in their relation to internal diseases. He strongly condemned the methods of some surgeons who performed operations which might be avoided; he asserted that in this particular all the eminent gynæcologists were of the same opinion as himself and he added that "polypragmasia" was only too well known in large cities. He maintained that in the majority of cases disorders of the sexual organs were not the cause but symptoms of grave nervous debility, and required not local treatment by a specialist but the use of tonics and measures likely to increase the strength. Symptoms suggesting hysteria or neurasthenia should be carefully analysed before resorting to the knife.

Dr. PLOENIES (Dresden) read a paper on the Relation between Menstruation and Diseases of the Stomach. He had observed that sometimes copious bleeding from the stomach—true hæmatemesis—occurred before and after the regular flow of the menses, and he attributed it to hypertonus of the blood-vessels regulated by the splanchnic and hypogastric plexuses. Diseases of the stomach, such as dilatation, hyperacidity, and nervous irritability, were often increased just before the appearance of the menses. Other observers had seen febrile icterus preceding the menstrual flow by six or eight days.

Dr. TUSZKAI (Marienbad) read a paper on the Relation between Pregnancy and Heart Disease. He said that whilst menstruation in a patient suffering from heart disease was often postponed and belated in the first instance the quantity was increased, and sometimes copious menstruation acted as a safety valve like venesection. The progress of pregnancy in such women was dependent on the degree of compensation and the prognosis was not so bad as was formerly believed. Even five or six labours might occur without the patient breaking down, provided that labour was not too difficult. Where this was to be feared premature labour must be induced before the fœtus had grown too large.

Dr. TURBAN read a paper on the Relation between Pregnancy and Pulmonary Tuberculosis. He said that tuberculosis was prejudicially affected by pregnancy and when the disease had attacked the lungs and was in an advanced stage the puerperium was a source of danger. If a child was born it should not be suckled by the mother. This, however, was not necessary in the case of thin women who were anæmic without being tuberculous.

Some papers on the Appearance of Albumin during Menstruation and of Graves's Disease complicating Gravidity were read but they were of minor importance.

In the afternoon the discussion was continued. Dr. HOFBAUER (Vienna) read a paper on Sexual Asthma. He said that, notwithstanding the absence of the crystals and of bronchitic symptoms, the aggregation of symptoms must be called asthma on account of the changes of the elasticity of the lungs. Acute emphysema had been noticed, caused by increase of the inspiratory volume of air due to lessened contraction of the diaphragm, which was under the influence of the cortex of the brain. X ray examination was useful in the investigation of these cases.

Dr. SINGER (Vienna) read a paper on Climacteric Diseases of the Bowel. He said that according to his observations in cases of early cessation of the menses, such as at the age of 35 or 40 years, meteorismus was likely to appear, which two symptoms together might cause an erroneous diagnosis of pregnancy to be made. Hæmorrhages from the intestines also appeared sometimes at the climacteric; they were caused by small erosions or ulcerations, mostly situated at the sigmoid flexure which was very often compressed by fæcal accumulations, owing to diminution of the contractile power of the muscular coats of the intestine. These hæmorrhages might lead to a mistaken diagnosis of tumour, but appropriate treatment such as massage, electricity, and aperients would bring about recovery in a few weeks.

On the evening of the first day the members of the Congress were entertained at a banquet provided by the city of Vienna in the Rathhaus which is a magnificent Gothic building. The fine Festsaal or Hall of Ceremonies, one of the largest in Europe, with its 2000 electric lights, presented a splendid spectacle. The company numbered upwards of 500, since many of the medical men had brought their ladies. The bürgermeister, who is himself under medical treatment on account of diabetes with ocular complications, welcomed the guests in a humorous speech, wishing them all success in their endeavours to elucidate the cause of diseases and their treatment for the benefit of all sufferers, himself included. Several toasts were drunk in honour of the Emperor, the Government, and some eminent physicians.

The second day was chiefly occupied, first, by the reading of a paper on

The Present Position of the Pathology and Treatment of Syphilis,

by Professor NEISSER (Breslau), and, secondly, by the ensuing discussion. Professor Neisser said that three important advances had been made by science in the recognition of the nature of this disease—namely, Schaudinn's discovery of the spirochæta pallida as the cause of syphilis, which was now accepted as proved;

time but of the nine patients discharged two appeared to have recovered completely and four showed signs of great improvement. Mr. Edward Hughes, the medical officer to the institution, appears to be quite satisfied with the results attained in the short period that has elapsed since the first patients were received and in a report to the board of guardians he points out that if these 32 patients had been treated in the ordinary wards of the workhouse infirmary they might have infected other patients who were suffering from curable diseases.

West Wales Sanatorium.

It is satisfactory to find that the Carmarthen county council has at last been prevailed upon to make a contribution towards the West Wales sanatorium for consumptives. Proposals to subscribe towards the erection of the building have on previous occasions been defeated but at a meeting of the council held on April 29th it was unanimously decided to contribute £150 annually on the understanding that two beds should be at the disposal of the county council. It is expected that the institution will be opened during the third week in July. In the previous week the Royal Sanitary Institute will be holding its annual congress in Cardiff and arrangements will no doubt be made for an inspection of the buildings by those attending the meeting whose interests lie in that particular direction.

Medical Inspection of School Children.

At the meeting of the Bristol education committee held on April 30th it was decided to appoint five "part-time" medical officers as inspectors of school children at salaries of £100 per annum, one at least of these officers to be a woman. It is proposed that each officer shall devote to this special work between two and three hours per day for three days of the week. In addition two health visitors, who will be certificated nurses, are to be appointed at annual salaries of £70 each.

The late Mr. David Lloyd.

Mr. David Lloyd died suddenly from heart failure on April 25th at Carmarthen. The deceased, who was 56 years of age, had for many years practised at Newcastle-Emlyn, where he was medical officer of the Newcastle-Emlyn rural district council; he had also recently been appointed medical inspector of schools by the Carmarthenshire county council. In 1897 he was chairman of the Cardiganshire county council and was presented to the late Queen Victoria in that year. He was on the commission of the peace for the county of Cardigan. Mr. Lloyd was highly esteemed at Newcastle-Emlyn and much sympathy is felt for his widow and three children.

May 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Alterations in Public Appointments following on Sir Henry D. Littlejohn's Resignation.

Sir Henry D. Littlejohn held the double office of medical officer of health and police surgeon to the city of Edinburgh. It has been wisely decided to separate these two posts for the future. The medical officer of health will in future confine himself to the duties of that office, excepting in so far as he has direct sanction to go beyond them. This reservation is desirable in Edinburgh for the medical officer of health of the city might very suitably be a lecturer in the Extra-Mural School. As regards the police surgeoncy the city is to be divided into four districts with a police surgeon in each, while the professor of medical jurisprudence is officially associated with the work and granted an honorarium of £100 per annum. There are already many applicants for the police appointments.

Death of Miss Spencer, late Lady Superintendent of Nurses, Royal Infirmary, Edinburgh.

During the spring vacation not only has the Royal College of Physicians lost its President by death but the lady who so long occupied the responsible post of lady superintendent of nurses in the Royal Infirmary, Edinburgh, has also died. It is only about a year ago that she resigned her position in the Royal Infirmary and had retired to Dollar with the prospect of years of quiet and rest in front of her. She, however, was seized with acute illness and although at one time it was thought that she would recover symptoms recurred and in spite of all that was done for her she died. The Royal Infirmary, the medical staff of the infirmary, and other bodies were represented at the funeral.

Glasgow Maternity and Women's Hospital.

The new buildings of the Maternity and Women's Hospital, Glasgow, were opened last week by the Duchess of Montrose. Since 1834, when the hospital was started on a very modest scale, the claims upon the services of the institution have steadily increased. The increase of total cases indoor and outdoor from 934 in 1880 and 1283 in 1890 to 3749 in 1907 gives an indication of the need that existed for an increase of accommodation for the sake of patients and students alike. So far as can be seen there is now no fear of the hospital proving inadequate for years to come. The new building forms an imposing pile at the top of Montrose-street. The steep gradient on which the foundations are laid presented some difficulties to the architect but by skilful planning the peculiarities of the situation have been turned to advantage. The hospital provides accommodation for 108 patients (92 in the general maternity department and 16 in the isolation block). The importance of having a special department for the treatment of cases which might from their character be harmful to other patients in the ordinary maternity wards has long been recognised in the best equipped institutions of the kind. The building is arranged in such a way that the wards receive the maximum of sunlight and air. The accommodation in each ward ranges from one to eight beds. The wards are bright and cheerful and each one is provided with radiators, a number of them having also an ordinary fireplace. On the first floor are two large labour rooms, one containing four and the other two beds. These apartments have a splendid north-west light, the walls are tiled to the ceiling, and the floors are constructed of terrazo, so that the whole interior can be flushed with a hose-pipe. Adjoining the labour rooms, which are equipped on the lines of a modern operating theatre, are a sterilising room, a lavatory, a robing room for the staff, a waiting room for the students, and a duty room for the sister in charge. As one of the leading functions of the new hospital will be the training of students no pains have been spared to provide a complete and up-to-date school for the teaching of practical obstetrics and gynæcology. There is a large lecture theatre occupying two storeys and giving accommodation for 90 students. In addition, on the top flat there is a large operating theatre with accommodation for 60 students. The whole gallery here is formed of terrazo, the walls also are tiled in their whole extent, so that the interior can be kept scrupulously clean. Together with the site for the hospital the directors acquired a property which is to be used as a residence for students who will thus be within immediate call when their services are required. Formerly maternity students had to find accommodation anywhere in the neighbourhood of the hospital. This new arrangement, coupled with the splendid advantages for acquiring a thorough training in the institution, should prove very acceptable and be a valuable adjunct to the teaching of medicine in Glasgow. In the hospital also a special room has been provided for the bathing of babies, the floor being formed of terrazo and the walls being tiled. Sleeping accommodation is provided also for 44 nurses in the hospital. Special attention has been directed to the laundry arrangements, all the linen from the isolation block passing through a special washhouse where it is first steeped in a disinfectant and then boiled before being sent to the ordinary washhouses. The mortuary is detached from the hospital and there are also provided a well-equipped research laboratory and private investigation room. There is no doubt that this hospital is now the most perfect of its kind in the country and this is largely due to the fact that before the plans were completed two of the visiting members of the staff, accompanied by Dr. D. J. Mackintosh as consulting expert, were requested by the board of directors to visit the leading hospitals at home and on the continent, and as a result all the leading improvements at home and abroad have been embodied in the Glasgow hospital.

Honour to a Glasgow Surgeon.

His Majesty the King of Italy has been pleased to confer upon Dr. Thomas Reid of Glasgow the high order "Commendatore of the Crown of Italy." This distinction is designed as a recognition of Dr. Reid's high merit as an ophthalmic surgeon and also of his many and valued services to the clinique of ophthalmology in the University of Turin, where his intimate friend Professor Reymond is chief. Dr. Reid joined the staff of the Glasgow Eye Infirmary in 1868 never been outside the workhouse for three and a half years. Whether the disease was introduced by visitors or not the decision to prohibit visiting whilst it exists is a wise precaution which cannot be the cause of any great hardship either to inmates or to visitors.

The Walsall and District Hospital.

The efficiency of any hospital depends very largely upon the amount of its income, and that being so the alarm of the treasurer of the Walsall and District Hospital at the result of the last quarter's work can easily be understood. The income of the hospital for the quarter was £452, the expenditure was £1197, and the adverse balance had increased to £1604, or £900 more than 12 months ago. It is true, as the chairman pointed out, that the hospital possesses a reserve fund of £20,000, but it is obvious that a considerably increased annual income is necessary or the reserve fund will have to be drawn upon heavily if the work of the institution is to proceed in a satisfactory manner. In the circumstances the decision to appoint a committee to canvass the town and district for subscriptions is wise and it has not been arrived at too soon.

The Health of the City.

The health of the city has improved rapidly during the past two weeks and the death-rate has fallen from 18·3 to 15·9 per 1000. The epidemic of influenza is becoming both less prevalent and less virulent. Scarlet fever, measles, and diphtheria are on the wane and there are hopes that with improving weather we may look forward to more normal conditions of health. The epidemic of scarlet fever reached its height in November last, when the medical officer's report stated that the disease was "more prevalent than at any period during the last five or six years." After Nov. 26th the decline commenced and with a few occasional exacerbations it has continued. 81 cases had been notified in the week preceding Nov. 26th and there were then 602 cases in the scarlet fever hospital. By the end of January the number of cases in the hospital had fallen to 502; at the end of February to 455; at the end of March there were 428 cases, and on Saturday last the number of cases in hospital had decreased to 403, whilst during the week only 39 cases had been reported. We shall probably now pass into a period of comparative immunity but unless some new and important discovery is made in association with the means by which the disease is spread the period of immunity will be followed sooner or later by another epidemic.

The Health of King's Norton.

From the yearly report of Dr. Reginald Green, the medical officer of health of the King's Norton and Northfield urban districts, it appears that during the year 1907 the birth-rate of the districts decreased 1·15 per 1000 as compared with the previous year, and the general death-rate increased from 9·97 to 10·78 per 1000. The infant mortality rate was 105 per 1000, the same as in the preceding five years. The increase in the general mortality rate does not seem to be ascribable to any special cause and apparently any efforts which may have been made to reduce the infantile mortality have been ineffective.

May 5th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Appointment of Dr. G. R. Murray to the Chair of Systematic Medicine in the Victoria University of Manchester.

THE profession in Newcastle and neighbourhood will deeply regret the loss of Dr. George Redmayne Murray who has accepted the invitation of the council of the Victoria University of Manchester to become the professor of systematic medicine in that University and, *ex-officio*, full physician to the Royal Infirmary at Manchester. The University of Manchester is heartily to be congratulated upon having secured the services of Dr. Murray and the latter is to be congratulated equally heartily upon having been invited to fill this important and interesting position—the invitation itself being a well-deserved tribute to his work in the past. It is understood that as the new infirmary buildings in Manchester will not be opened until October Dr. Murray will not sever his connexion with the Royal Victoria Infirmary and College of Medicine in Newcastle until towards the end of September.

The Arrangement in Manchester between the University and the Infirmary with Regard to the Chairs of Systematic Medicine and Surgery.

The arrangement which exists in Manchester between the authorities of the University and the authorities of the infirmary, by which the professor of systematic medicine and the professor of systematic surgery are *ex-officio* full physician and full surgeon respectively to the infirmary, is one which might be considered with advantage by other provincial universities when considering any future re-organisation schemes. In Manchester a regulation is in existence under the provisions of which a physician or a surgeon to the infirmary on attaining the age of 60 years retires from his appointment, and this regulation is also applicable to the physician or surgeon who holds the chair of systematic medicine or systematic surgery—on retiring from the infirmary he retires also from his professorship. In this way a very close connexion is maintained between the university and the infirmary in Manchester, which must be of the greatest benefit to both institutions. An age limit also allows of the introduction of younger men more frequently than when no age limit exists, and as in most, if not in all, places an age limit exists for members of the staffs of the various hospitals it follows that unless both appointments are laid down together the teaching will, or at least may, be continued by a man who has retired from the more active and practical part of his work, and this for obvious reasons is not in the best interest of the student, for whose benefit, after all, all professorships exist. In most other subjects an age limit for retirement is not yet possible on financial grounds. But in the case of professors of medicine and surgery the holders of these appointments are the leaders of the profession and the income which they enjoy from private practice should allow of provision being made for the time when they will have retired, which is not the case in many of the subjects of the medical curriculum, where the head of the department is paid a comparatively small fixed salary which in most cases is barely more than enough to pay his expenses. But though an age limit for retirement may not be possible in, for instance, the subject of pathology, the argument for the arrangement whereby the head of the department of pathology in the school shall also be *ex-officio* head of the same department in the infirmary is just as strong as, if not stronger than, in the case of surgery and medicine.

May 5th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Housing in Merthyr.

THE Merthyr corporation is extending its building operations in the direction of erecting 38 workmen's houses at an estimated cost of £7650 upon land which it is proposed to lease at an annual rental of 1½*d.* per square yard. It is intended to charge a weekly rental of 6*s.* for each house. In 1902 the corporation built 100 houses which are now let at about the same rent. In his recently issued annual report the medical officer of health (Dr. Alexander Duncan) states that during 1907 there were 72 houses closed as uninhabitable and 65 others which he reported as being unfit for habitation were put into a proper condition. Although there is some improvement over former years there is still a large amount of overcrowding in the borough but the activity of the council is apparently having a good result. A charge has frequently been made, and has quite recently been repeated, against the owners of houses who are also tradesmen that the tenants are compelled to make weekly purchases at the shops owned by the landlords, and that in default of doing so the tenants are given notice to leave their houses. It is obvious that if such a custom is prevalent it is open to the gravest abuse and steps should be taken to put a stop to it.

Newport Sanatorium for Poor-law Patients.

The sanatorium established, apart from the workhouse, for consumptive patients under the care of the Newport board of guardians has now been occupied about four months. During that period 32 persons have been admitted for treatment, of whom four died and nine have been discharged. A great many of those received had been ill for some considerable before Judge Overend. It was an appeal in which three farmers were fined for refusing to allow samples of milk to be taken for analysis which they were supplying to Tamlaght Coöperative Creamery. The manager of Tamlaght Coöperative Agricultural and Dairy Society was also fined for obstructing the food and drugs inspector in the execution of his duty. It would appear that the farmers refused to give samples and the manager of the creamery directed them not to supply samples. The inspector's case was that the creamery was a coöperative society or limited company and that he was entitled to take the sample to ascertain if proper milk was being supplied. The manager of the creamery contended that the inspector's test would not be a correct one, as the standard of the milk might vary from day to day, whereas he contended the true test was made by taking a composite sample from each supplier's milk daily and by ascertaining the standard of cream at regular intervals. The county court judge upheld the magistrate's decision, being of opinion that it was highly important that milk should be tested and that the State had the right to have it done.

May 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Principal Causes of the Mortality from Diphtheria since the Introduction of Serum-therapy.

ON April 21st M. Martin communicated to the Academy of Medicine a study of 853 cases of diphtheria treated at the Pasteur Hospital by serum-therapy with 83 deaths, this being a mortality of 9·7 per cent., which practically coincides with the published mortality from the disease since the introduction of the treatment. This could be lowered if the injections were given earlier and if in selected cases prophylactic injections were employed. In reviewing the age-incidence of the fatal cases it is seen that they occur chiefly in infants under two years of age, which points to the fact that the treatment is not given early enough owing to the late establishment of the diagnosis. Other cases are accounted for by bacterial complications in secondary cases. The remedy is to be found in the individual isolation of patients. Toxic complications also help to swell the mortality, the disease being cured locally, but grave general symptoms and sequelæ supervening, due to an intense toxic condition which defies the means of defence by damaging the hepatic, renal, and suprarenal functions. To avoid this disaster the serum must be pushed vigorously, as in the treatment of diphtheritic paralyses. By such means the mortality amongst young infants may be lowered.

Sugar Refining as a Dangerous Occupation.

At the Academy of Medicine on April 21st M. Bernheim and M. Dieupart reported their experiences in an "anti-tuberculosis" dispensary situated near a sugar refinery, where they observed 150 cases of tuberculosis amongst 1500 hands employed in the works. Women proved more susceptible than men. They attributed this disproportionate frequency of the disease less to a chemical action of the sugar than to a pneumonokoniosis. The countless tiny sharp fragments of sugar dust in which the refiners are continually smothered reach the bronchi and the alveoli and cause lesions just as if they were particles of metallic dust. The hygienic conditions in these works are faulty and the hands are too badly paid to obtain proper nourishment. Further, the observers found very defective conditions of the teeth in these people, a great number of them being completely toothless; and lastly, the disease ran a very virulent course, advancing rapidly and nearly always to a fatal issue, as occurs when tuberculosis attacks diabetic subjects.

The Therapeutic Uses of Venous and Arterial Hyperæmia.

In M. Tuffier's clinique at the Beaujon Hospital these methods have been given a systematic trial, and M. Durey brought the results before the notice of the Medical Society of Paris on April 25th. By means of 200 cases treated in the course of two years he showed that venous hyperæmia induced by stasis gives excellent results in acute inflammatory conditions, provided Professor Bier's own technique is followed scrupulously; he further showed that arterial hyperæmia is rather of service in chronic or non-infective conditions, that the dangers of its employment are negligible, and that, speaking generally, hyperæmia should be employed less as a therapeutic measure *per se* than as a physiological adjuvant to natural curative processes.

Post-Graduate Medical Teaching.

The practical demonstrations for practitioners, which have been organised by a body of physicians and surgeons on the staffs of the hospitals and by various specialists, will be held in May and June at the Cercle de Luxembourg, 16, Rue de Luxembourg, and in the different hospitals and cliniques. A subscription of 20 francs covers the 21 demonstrations of the course.

Obituary: M. Chamberland.

The world of science in France has suffered severe losses recently and the latest is that of M. Charles Edouard Chamberland, which occurred on May 2nd. He was born in 1851 at Chilly-le-Vignoble, in the Jura. In his early youth he showed a marked aptitude for science and especially for mathematics. In 1857 he left his *école normale*, where he had distinguished himself in his studies and had become an *agrégé-préparateur*, and shortly afterwards he had the good fortune to meet Pasteur. He was an enthusiastic member of that great man's first band of pupils and in a little while proved himself one of his most valued assistants. M. Chamberland was a member of the Academy of Medicine, an Officer of the Legion of Honour, and assistant director of the Pasteur Institute. He made numerous contributions to the Transactions of the Academy of Science, which included a study of anthrax, a paper on its prevention by vaccination based on the researches of Louis Pasteur, and works on drinking-waters in their relation to health and epidemic disorders. M. Chamberland was returned as the Republican radical representative for the Jura at the general elections in 1885; he did not offer himself for re-election in 1889.

May 4th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Mortality from Tuberculosis.

AT a recent meeting of the Berlin Medical Society Professor B. Fraenkel read a paper on the Decrease of the Mortality from Tuberculosis and its Causes. He said that according to the statistical returns there were in Prussia 88,283 deaths from tuberculosis in 1886 and 64,459 in 1906, giving death-rates respectively of 31·14 and 17·26 per 10,000 of the population. The deaths from tuberculosis had therefore decreased by 23,824 and had influenced the aggregate deaths in Prussia, which decreased during that period by 69,064. The year 1886 was a critical year for the general mortality, which during the previous decade—i.e., from 1876 to 1886—had fluctuated between 263·30 and 247·76 per 10,000, whilst it descended to 209 per 10,000 in 1893 and to 180 per 10,000 in 1906. With regard to tuberculosis, the mortality from that disease during the period from 1875 to 1886 was between 31 and 32 per 10,000. From 1887 the mortality due to tuberculosis rapidly descended to 20·5 per 10,000 in 1893 and remained about this level for several years, when it again rapidly descended to 17·26 per 10,000 in 1906. This fact might be attributable either to a reduction in the number of persons attacked or to an increase in the number of recoveries. On an average tuberculous patients died four years after the commencement of the symptoms, so that the decrease of mortality in 1886 would mean that the number of tuberculous patients began to decline in 1882. This was the year when Professor Robert Koch discovered the bacillus of tuberculosis and drew attention to the fact that the disease was spread by the sputum of patients suffering from pulmonary tuberculosis. Moreover, between the years 1882 and 1886 compulsory insurance against sickness became law in Germany and from that time the working classes had at their disposal proper medical advice and financial assistance in the event of illness—a fact which certainly has contributed to the decrease of mortality. It has been alleged that the fall in the death-rate from tuberculosis was only apparent and was in reality due to the circumstance that since the discovery of the tubercle bacillus many suspected cases were now attributed to other diseases. This was, however, erroneous, because the mortality from other diseases of the respiratory organs had not increased in a degree to compensate the decrease of mortality from tuberculosis. It was interesting to find and on the death of George Rainy was selected as Waltonian lecturer on diseases of the eye in the University of Glasgow in 1869. During 30 years he taught and demonstrated the principles and practice of ophthalmic surgery to rising generations, and almost all the ophthalmologists at present in Glasgow have studied with him at some time. The University of Glasgow conferred on him the honorary degree of LL.D. 12 years ago. He retired from public work, both in the University and in the Eye Infirmary, in 1900.

Spitting on Pavements.

The report to the Aberdeen town council by the medical officer and sanitary inspector recommending notices against spitting on the pavements has been adopted. It is suggested that these notices should be not more than 200 yards apart in the busy parts of the streets and should read, "Please do not spit on footpath." It is also suggested that notices should be supplied to the larger factories and workshops in the city and that those notices should bear reference to the main purpose of the discouragement of spitting in public or occupied places—namely, the prevention of the spread of consumption—and that they should read: "Corporation of Aberdeen. Public Health Department. Prevention of Consumption. You are earnestly requested to abstain from the dangerous and objectionable habit of spitting."

May 5th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish University Bill.

THE names of the members of the first Senate of the new University to have its seat in Dublin are given below; the nomination of those marked with an asterisk has effect only while those persons hold the offices of which the descriptions are attached to the respective names, and on the occasion of any such person ceasing to hold the office a vacancy will occur to be filled by further nomination: *Alexander Anderson, M.A., LL.D. (President of the Constituent College in Galway); the Hon. Mr. Justice Dunbar Plunket Barton; S. H. Butcher, M.P., LL.D.; Sir W. F. Butler, G.C.B.; W. F. T. Butler, M.A.; *D. J. Coffey, M.A., M.B., B.Ch. (President of the Constituent College in Dublin); A. W. Conway, M.A.; M. F. Cox, M.D.; Rev. W. Delany, S.J., LL.D.; A. Dempsey, M.D.; S. Gwynn, M.P.; Sir Stanley Harrington; Miss Mary T. Hayden, M.A.; His Grace the Most Rev. Dr. Healy, D.D.; Douglas Hyde, LL.D.; J. S. McArdle, M.Ch.; J. A. McClelland, M.A., D.Sc.; John MacNeill, B.A.; W. Magennis, M.A.; Thomas Maguire; the Right Rev. Monsignor Mannix, D.D., LL.D.; H. C. McWeeney, M.A.; Rev. A. Murphy; Sir C. Nixon, Bart., M.D., LL.D.; J. F. O'Carroll, M.D.; P. A. O'Sullivan, M.D., B.Ch.; the Right Hon. Christopher Palles, LL.D., Lord Chief Baron; C. Yelverton Pearson, M.D., M.Ch.; J. P. Pye, M.D.; P. Semple, M.A.; A. Senier, Ph.D.; G. Sigerson, M.D.; L. A. Waldron, M.P.; His Grace the Most Rev. Dr. Walsh, D.D.; and *B. C. A. Windle, M.A., M.D., D.Sc., F.R.S. (President of the Constituent College in Cork).

Housing of the Dublin Poor.

The question of the housing of the Dublin poor has been again brought very emphatically under the notice of the assembled Dublin corporation by Dr. J. C. McWalter; and in a leading article the *Freeman's Journal* has spoken out vigorously and wisely regarding some of the curable disorders in the construction of the city.

> It is the rightful boast of Germany that in the cities of the Empire, with only one possible exception, "slum streets" are paved and cleaned and sun-lit just as necessarily as the quarters of the well-to-do. And even the very poorest cannot do their daily shopping at the corner of their meaner street without breathing the pure air of some wide thoroughfare, gladdened by trees and flowers, and pleasant to sit in and lounge and gossip in a while. That sweetens the day, and you see it in the people's faces and habit, and they are cheerful and cleanly and self-respecting; there is content and hope in their friendly faces. Even those who do not live in slums have something to complain of here in Dublin. The slums poison their day, too, and cast up their evil in very visible form. And there is a hideousness of another kind forced upon us at every turn. The advertisement hoardings, with their gaudy persistence, often offending the minds by their unpleasant tales, and the eyes by their crude colours and misdrawn figures, and often by their distressingly weather-battered and ragged state—these, insistent in Dublin beyond the ordinary, take away the dignity of our city, make it look out at elbows and decayed. If we cease sometimes by use to notice their unloveliness, it is that the mischief has gone the more sadly deep. The foreign visitor is disgusted at this ugliness enthroned. In no country is this doubtful trade so unabashedly rampant as here; in the whole of Germany it is hard to find one such offence. The neat advertisement pillar does the business, and the hoarding flamboyance is ruled out by law.

As every human unit is largely influenced by environment, and more especially the younger ones on whom the future of humanity depends, I trust that these suggestions may bear their much-needed fruit.

Injunction Sought against Derry Lady Poor-law Guardian.

Some of the best work in the unions of the Irish metropolis of recent years has been effected by two of the lady Poor-law guardians, Mrs. MacDowel Cosgrave and Mrs. J. Wyse Power, and the value of their efforts has been generally recognised. A lady guardian in the city of Londonderry who has desired to show similar activity has not found public approval, for an action has been brought by the guardians of Derry union against Mrs. Margaret Morris, a lady member of the board, by which the "plaintiffs seek an injunction against defendant to restrain her from entering the workhouse infirmary or from visiting it except in accordance with the rules and regulations for visitors." The evidence led Mr. Justice Barton to state that his "inference from the evidence was that although this lady may have shown a certain want of discretion she did a good deal of good." The defence was that the lady "saw too much," and it would appear to have a solid foundation. One of the things which she saw and exposed to general view was: "The cot incident, three children being in it together, one of whom was seriously ill." Another source of trouble was: "She discovered a child was born in the institution and that the reputed father was an inmate." She also had complained of the quality of the beef-tea and other items. The repeated discoveries and reports of Mrs. Morris roused the conservative antagonism of her colleagues so thoroughly as to lead to the action which is now proceeding.

The Strain of Life in the Irish Constabulary.

What appears to be one of the incidental results of the troubled contemporary history of Irish land tenure has occurred near Dundalk, where a member of the Irish Constabulary who had been in charge of the police hut on an evicted farm was committed on Saturday (May 2nd) to a lunatic asylum. From the beginning of the week it had been noticed that his conduct was growing strange. Two of his comrades accordingly kept watch, and as he was seen putting a loaded revolver in his pocket and retiring to the rear of the hut they followed and he was deprived of the weapon after a desperate struggle. On the following day he attempted to commit suicide with a knife. A medical officer was consulted and the constable was certified to be insane, the strain of the duty which he was engaged in performing having preyed upon his mind in his solitary position to this degree.

The Importance of Union Rate-books.

An interesting communication was made to the Royal Society of Antiquaries at its quarterly meeting on April 28th by Mr. Thomas Laffan of Cashel, the subject of the paper being the importance of the union rate-books of the country, which contain exact records of the valuation, acreage, rent, &c., of every holder of land throughout Ireland. These books are much more copious in their information than the old hearth-money returns which are now so highly prized for purposes of family and historical research and record. In many cases where the parish records failed the rate-books have been found to afford valuable help to those interested in the recovery of property, while from a medical point of view it is a misfortune that many of them have been destroyed and that no copies have been preserved in the general valuation office. Medical statistics are playing an important part in preventive medicine and many medical men will concur with Mr. Laffan in his high estimate of the importance of the union rate-books and in his suggestion that for the future these records should be carefully preserved.

The Belfast Health Commission.

At a meeting of the corporation of Belfast held on May 1st it was decided to refer the report of the Belfast Health Commission to the joint public health, improvement, works, and market committee, with instructions to consider the conclusions arrived at and the recommendations made by the Commission and to report thereon to the council at an early date.

Analysing Creamery Milk.

A case in which great public interest was centred was heard at Magherafelt quarter sessions (county Derry) recently a number of experiments which had been made at his hospital which went to discredit the value of fumigation as a means of preventing the spread of disease. Dr. W. J. Dobbie, superintendent of the free hospital for advanced cases of tuberculosis at Weston, read a paper on Tuberculosis as a Social Problem. He urged the importance of the adoption of educational methods to stir up public opinion and suggested that centres of activity should be established in every city, town, and county. Dr. Gordon, of the Gravenhurst Sanatorium, advocated commencing the education campaign in the public schools. Dr. Helen MacMurchy, Toronto, read a practical paper on the Milk-supply. Dr. Charles Sheard, Toronto, city medical health officer, would keep out visitors to the patients in the hospitals. The following officers were elected: President, Dr. W. J. Dobbie; first vice-president, Dr. A. D. McIntyre, Kingston; and secretary, Dr. J. N. E. Brown, superintendent of the Toronto General Hospital.

Vancouver General Hospital in 1907.

There were 2301 patients admitted for treatment into the wards of the Vancouver, B.C., General Hospital during the year 1907. This was an increase of 988 over 1906. The average duration of stay in the hospital was, however, lower —19·90 days as compared with the previous year of 21·10. There were 135 deaths during the year and of these 47 had been in the hospital less than 48 hours. 11 of the deaths were due to tuberculosis of the lungs. Three "Christian Scientists" were among the cases admitted. During the year the new isolation buildings were put into use, and at times considerable difficulty was experienced in securing accommodation for the cases of infectious diseases admitted. The training school for nurses in connexion with the Vancouver Hospital has been increased from 31 pupil nurses to 53. There were 146 applications for entrance to the school during the year.

Hospital Extension in Winnipeg.

The work of the Winnipeg General Hospital has increased to such an extent during the past few years that new buildings are urgently needed. It has been decided to submit a by-law to the ratepayers of that city to raise $225,000 for hospital extension purposes. Of this amount $100,000 will be for an isolation hospital with 80 beds; morgue, $15,000; hospital for tuberculous patients, $40,000; and maternity and children's hospital, $60,000. The expenditure in maintaining this hospital in 1907 was $169,000. There were received from private patients $23,000 and from semi-private patients $34,000. The average full cost of a private patient per day was $3·00 and for a semi-private patient $1·50. The hospital receives an annual grant from the city of Winnipeg of $40,000 and from the Manitoba Government about $26,000.

Toronto, April 23rd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Prize Essay on Bright's Disease.

IN 1901 the New York Academy of Medicine offered a prize for the best original research work on the kidneys. The prize fund was established by a lady and was to be awarded triennially. This is the first time since 1901 that a thesis has been submitted which, in the judgment of the committee, reached the high standard of merit required. The winner of the prize will receive the original amount, plus the interest which has been accumulating since the fund was started, making in all about $20,000. The work involved in this research has been immense in detail. The hospitals employed in the research were Roosevelt, St. Luke, and the Sloane Maternity, while at the same time expert chemists carried on their investigations in the Pathological Laboratory and at the Laboratory of Biological Chemistry of the College of Physicians and Surgeons. The thesis is not published, but the winner of the prize, Dr. Norman Ditman, states that the investigation was along these lines—viz., the identification of the various poisons in the system causing Bright's disease; the probable physical conditions leading to the formation of these poisons; the deduction of a general cause from all of these; and the hypothesis for the probable prevention of the disease.

Visit of Dr. Robert Koch.

The visit of Dr. Robert Koch of Germany to this country has excited a widespread interest in medical and scientific circles. His first public appearance was at a dinner given by the German Medical Society, under the presidency of Dr. Carl Beck. An interesting incident of the dinner was a telegram from the German Ambassador at Washington, expressing the Emperor's great appreciation of Mr. Carnegie's generous gift of $100,000 to the "Robert Koch *Stiftung*," which he was sure would further the international fight against tuberculosis. Dr. Koch expressed his appreciation of the cordial reception given to him in simple but forceful language, asserting that he had endeavoured, like many others, to do his work in the world as opportunity offered. He esteemed himself fortunate in having found gold in the dust of the road which is open to everyone. He closed with a promise that he would return, which was received with great enthusiasm.

Conference on Medical Education.

The fourth annual conference on medical education was recently held in Chicago. In his address the President, Dr. Bevan, announced the merging of several medical schools as an important event, showing a tendency to close weak schools and in their places to create one strong and well-endowed college. It appeared in a report that 50 leading medical colleges will in 1910 be requiring one or more years' study in a college of liberal arts, including courses in physics, chemistry, and biology. President Eliot, of Harvard University, spoke at length regarding high standards of preliminary education and called attention to the fact that the colleges holding high standards are more likely to secure endowments. The conference was addressed by Dr. A. H. F. Barbour, of the University of Edinburgh, who explained the medical standards in Scotland. The outlook for great advances towards a higher grade of qualification on admission to the medical colleges, longer terms of study, and more efficiency in teaching was never so promising.

Interstate Health Investigations.

The importance of coöperation of the Federal Government with State and local health authorities in the control of widespread epidemics has been repeatedly demonstrated during the last few years. But the "State rights" doctrine has been so tenaciously adhered to that the "public health service," which represents the General Government, has been able to bring to the aid of local health authorities a very limited amount of its resources. A Bill is now before Congress which greatly enlarges the scope of the powers of the "public health service" in the aid of the State and local sanitary boards. The Bill provides that the Federal service may make special investigations in all parts of the country into the prevalence of diseases, the conditions affecting their origin and spread, and the means of prevention; while the surgeon-general may detail officers to aid localities and may establish hygienic laboratories and take other necessary means to control epidemics. If this measure becomes a law it will create a national system of sanitary police of great efficiency.

April 27th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Proprietary Medicines.

Messrs. E. Glover and J. A. Kenningham have arrived in Melbourne as delegates from a number of proprietary firms having an interest in the manufacture of patent medicines, to protest against the legislation introduced, and contemplated, by the Federal Government. On March 10th they were introduced to the Minister of Customs. Mr. Glover stated that he represented about 300 proprietors of patent articles, including soaps, medicines, &c. These business people had held a trade connexion in Australia for many years and wished to continue it, but if the Government demanded that formulæ should be disclosed they would have to give up the Australian market altogether. Mr. Kenningham said that they were informed that if a formula was disclosed it was open to anyone to make the goods and to call them by the correct names. The Minister, in reply, said that they could depend that the Government would try to treat them with reason and justice. Any legislation that was passed would, he hoped, be of a reasonable character. Black sheep had been referred to as being in the trade in proprietary articles. The more that trade was probed that the decrease was greater in the towns and Professor Fraenkel was inclined to attribute this to the circumstance that in the towns a larger proportion of the population profited by the operation of the workmen's insurance laws than in the rural districts. The same cause was alleged for the greater decrease of mortality in the industrial western districts of Prussia than in the agricultural eastern districts. The decrease of mortality from tuberculosis was especially marked at the more advanced ages. Comparing the years 1886 and 1906 the reductions per 10,000 at successive age-periods were as follows: under 15 years, 4·70; from 15 to 30 years, 8·61; from 30 to 60 years, 24·77; and over 60 years, 45·46. For some other German States—namely, for Bavaria, Saxony, Würtemberg, and Baden—the statistical returns were given only for the period between 1892 and 1902, the decrease of the death-rate from tuberculosis in these countries being 3, 4, 1, and 4 per 10,000 respectively. Professor Fraenkel then compared the Prussian statistical returns with those of Great Britain and Ireland. He said that in England the death-rate from tuberculosis decreased between 1864 and 1904 from 33 to 18 per 10,000, and in Scotland from 36 to 21 per 10,000, so that in those countries the decrease during 40 years was the same as in Prussia during 20 years. Alluding to the mortality from tuberculosis in Ireland (which had increased from 24 to 27 per 10,000 within the period from 1864 to 1905), he said that this increase was caused by the unsatisfactory standard of living which prevailed among the population. It proved, however, that the bacillus of tuberculosis had not become less infectious or the resistance of the human species greater, as had been asserted by some writers desirous of making out that the diminished mortality from tuberculosis was due to natural causes. If their arguments were sound the mortality of tuberculosis would have become smaller in Ireland also; its increase implied that the mortality from tuberculosis was influenced not by natural causes but by purposely directed measures such as amelioration of the social condition of the population, general hygienic improvements, and the systematic observance of the special precautions which have been recommended for the prevention of tuberculosis. Tuberculous patients being the vehicles of infection all those measures were especially efficacious which tended to the recovery or at least the isolation of the individual patient. This was the principal function of the sanatoriums, and it was remarkable that the mortality from tuberculosis, which remained nearly the same from the year 1899 to 1905, decreased by 2 per 10,000 in 1906, coincidently with the development of the sanatorium movement. About 40,000 persons were admitted every year into the sanatoriums and of these about 20,000 had obvious tubercle bacilli in their sputum. In about 6000 of them the tubercle bacilli disappeared from the sputum under the sanatorium treatment and in this way these patients became incapable of spreading the disease. Professor Fraenkel was therefore a firm believer in the value of sanatoriums for the prophylaxis of tuberculosis. In the discussion Dr. Mosse mentioned that Dr. Croissant of Heidelberg had compared the results obtained within and outside the sanatoriums respectively. He found that of the patients in the first stage of the disease 79·6 per cent. became able to work when treated and 82·5 per cent. when not treated in a sanatorium. Dr. Mosse also drew attention to the fact that the mortality from tuberculosis in England had decreased although the number of sanatoriums was rather small compared with Germany. Measures to improve the standard of living among the population were more efficacious than sanatoriums. Dr. Albert Fraenkel said that the sanatoriums, as a rule, received only patients in the first stage, or suspected cases, who might recover without sanatorium treatment. It was, however, very necessary to establish sanatoriums for patients in an advanced stage who were especially dangerous as disseminators of the bacilli. Dr. Hamburger quoted from the statistical returns of Paris, where the mortality from tuberculosis decreased from 45·1 to 35·8 per 10,000 during the period from 1865 to 1905. It was remarkable that a slight increase was observed in the period from 1881 to 1890—namely, at the very time when the tubercle bacillus was discovered. Several other members took part in the discussion; the general opinion, with a few exceptions, was that sanatoriums in their present state, although, of course, valuable for individual patients, were not so important for the general prevention of tuberculosis as Professor Fraenkel supposed.

May 5th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Regulating the Sale of Patent Medicines.

Senator Templeman of British Columbia has a Bill before the Canadian Parliament dealing with patent medicines which will inform the public of the character of the drugs used in these preparations in Canada. It only has to do with those drugs or preparations which are not found in the British Pharmacopœia, the Codex Medicamentarius of France, the Pharmacopœia of the United States, or any other pharmacopœia approved of by the Minister in charge of this branch of the public service. The pivotal clause of the Bill is that which treats of the contents of medicines. This clause sets forth the names of the drugs which shall not enter into the composition of preparations to be manufactured, imported, or exposed for sale. The purport of the Bill is to rule out cocaine and alcohol in drug preparations; and if these drugs are used it must be so stated on the labels. The Bill further provides for governmental inspection in carrying out the law.

Meeting of Ex-House Surgeons of Toronto General Hospital.

The third annual dinner and meeting of the Association of Ex-House Surgeons of the Toronto General Hospital took place in Toronto on April 15th, being presided over by Dr. Alexander Taylor of Goderich. There were 40 ex-house surgeons present, including Dr. T. B. Futcher, associate professor of medicine in Johns Hopkins University, Baltimore, U.S.A. Dr. Charles O'Reilly, former superintendent of the hospital, and Mr. P. C. Larkin, vice-chairman of the board of trustees, replied to the toast "Our Guests." In the course of his remarks Mr. Larkin announced that he would give a valuable prize to the ex-house officer who made the best contribution to medical literature between now and the time of the next annual meeting. The annual election of officers of the association resulted as follows: President, Dr. Taylor, Goderich, Ontario; vice-president, Dr. Fred. Fenton, Toronto; secretary, Dr. J. N. E. Brown, superintendent of the Toronto General Hospital; treasurer, Dr. W. B. Hendry, Toronto; general council, Dr. W. J. Charlton, Weston, Ontario; Dr. H. A. Bruce; and Dr. E. Stanley Ryerson, Toronto.

A New University for Western Canada.

The new University of Alberta is to open in September with a class of 40 students. The first meeting of the senate was held recently. Three medical men are members thereof—namely, Dr. W. D. Ferris, Dr. W. S. Galbraith, and Dr. O. Boyd. The President is Professor H. M. Tory, LL.D., brought by the Government of the province of Alberta from McGill University, Montreal. To him has been assigned the preliminary work of organisation. The site of the new University is at Edmonton and the extent of the ground is 258 acres. The current expenses are to be defrayed by a grant of 20 per cent. of the corporation tax and 20 per cent. of the unoccupied land tax. The Government will provide the buildings. Professor Tory has stated that courses will be instituted leading to the degrees of B.A. and B.Sc. The college yearly session will be divided into two terms beginning at the end of September and the beginning of February. Each term will be complete in itself and will be followed by an examination.

Anti-tuberculosis Society in Newfoundland.

A large public meeting has been recently held at St. John's, Newfoundland, and a society established to prevent the spread of tuberculosis in that colony. His Excellency the Governor of the island, himself a medical man, presided at the meeting. The Hon. John Harvey was appointed to the position of president of the new society and Dr. Rendell and Mayor Gibbs, vice-presidents, with a number of prominent citizens, medical and lay, as an executive committee. As tuberculosis has been increasing to an alarming extent in the colony the formation of the association is opportune.

Canadian Hospital Association.

The Canadian Hospital Association met in Toronto in annual convention on April 20th and 21st, under the presidency of Miss L. C. Brent, superintendent of the Sick Children's Hospital, Toronto. In her annual address she recommended that the membership of the association should be extended to include trustees of hospitals and other laymen interested in hospital work. Dr. A. D. McIntyre, superintendent of the Kingston General Hospital, in a paper quoted well liked by his fellows. He obtained the L.S.A. in 1882 and the M.R.C.S. Eng. and L.R.C.P. Lond. in 1883. After leaving St. Thomas's he was appointed house physician at the City of London Hospital for Diseases of the Chest. Soon after qualifying, when 25 years of age, he obtained the post of medical officer to the North Surrey District Schools at Anerley in competition with 70 other applicants and then settled at Anerley. In the course of a few years he had succeeded in acquiring a large practice which grew from year to year and became one of the most extensive in South London. In the year 1901 he was appointed medical officer of health to the Penge urban district council and when the London County Council built its residential school at Anerley for the deaf and dumb he was appointed medical officer to that school. He was keenly interested in his profession and was for many years honorary secretary first of the East Surrey, and latterly of the Norwood, division of the British Medical Association. In addition he was a member of the Sydenham District Medical Society and of the Beckenham and Penge Medical Society, and in him the various charities in connexion with the profession found a generous supporter. He was at all times a keen sportsman and a lover of outdoor sports. When at St. Thomas's Hospital he played half-back in the Rugby XV. and was a member of the team which won the Inter-Hospital Cup in 1878, the first occasion on which the cup was won by St. Thomas's. He subsequently took up lawn-tennis, played for the Crystal Palace Club for many years, and won many prizes. Finding that his health and the claims of practice would not permit him to keep up tennis he turned to golf and was a member of the Beckenham Golf Club where he won two challenge cups. He was very good at all sports and his success was all the more remarkable because he had so little time to devote to them and could never practise regularly. It was his interest in sport that led to his accepting the post of honorary medical officer to the Crystal Palace Football Club and practically the last work that he did was when he attended a prominent member of the eleven who was injured in a match on Saturday, April 18th. He conveyed the patient to his home in Croydon in his motor-car and in doing so caught a severe chill. He was taken ill on that Saturday night and died on the morning of Friday, April 24th. As a result of a post-mortem examination the coronary arteries were found to be atheromatous.

Henry Prangley was a keen and enthusiastic Freemason of many years' standing. He was a Past Master of the Anerley Lodge, No. 1397, and M.E Z. of the Anerley Chapter. He was a founder of the Cheselden Lodge, No. 2870 (St. Thomas's Hospital), of which he was at the time of his death Worshipful Master. He was also a founder and P.Z. of the Cheselden Chapter. Devoted both to his old hospital and to Freemasonry, it afforded him great gratification to be called upon to fill the principal offices in the Cheselden Lodge and the Cheselden Chapter, and although in the case of the Lodge it was not given to him to complete his work the brethren will feel a melancholy satisfaction in that for a time they were privileged to serve under his rule. His sudden death will be most sincerely lamented by the brethren of the Masonic bodies with which he was associated. Indeed, not only amongst Freemasons but, speaking generally, his death will be a blow peculiarly and severely felt by his friends, by his patients, and by all who knew him. As a general practitioner he reflected credit upon the great body of the profession. As a man he was able, upright, genial, and considerate, and popular in the best sense of the term—a good man and true. The funeral service took place on April 29th at St. Paul's Church, Upper Norwood (the body having been previously cremated at Golder's Green according to the wishes of the deceased), and the ashes were subsequently interred at the Crystal Palace District Cemetery, Elmers End. There was a very large number of mourners present and the whole of the route was lined by people. Besides the wreaths on the coffin it took three carriages to convey the other flowers, which included wreaths sent by the Anerley Lodge and the Anerley Chapter and the Cheselden Lodge and the Cheselden Chapter. In addition to the principal mourners the Anerley Lodge was represented by Mr. P. W. Greetham, W.M., Dr. R. Wilkinson, I.P.M., and other members of the Lodge, whilst the Cheselden Lodge was represented by Mr. L. A. Bidwell, I.P.M., Dr. Crawford Thomson, Dr. W. S. Colman, Dr. O. R. Box (all Past Masters of the Lodge), Rev. Herbert Sheppard (chaplain), and several other members of the Lodge. The funeral was also attended by members and officials of the Penge urban district council, of the North Surrey District Schools, and representatives of the Deaf and Dumb School, and the postmen who were accompanied by their band. The service at the church and at the grave was conducted by Canon Ransford. Mr. Prangley leaves a widow to whom we tender our sincere sympathy.

WILLIAM BOWEN DAVIES, L.R.C.P. LOND., M.R.C.S. ENG., L.S.A.

BY the death of Mr. William Bowen Davies at the age of 61 years the town of Llandrindod Wells has lost a friend and benefactor of a very unusual order, a man who devoted his life to the advancement of its welfare and served it in many offices of great utility. Mr. Davies was the eldest son of the late Mr. Thomas Davies of Llandingat, Carmarthenshire; he was educated at Llandovery College and later at St. Bartholomew's Hospital, whence he qualified at the London Colleges and the Apothecaries' Hall in the years 1869–70. He then held a resident post for a year in the Jersey General Infirmary and in 1872 proceeded to start in practice at Llandrindod Wells, then little more than a village, where the death of his only professional competitor speedily placed him in the enjoyment of an extensive practice, which he held until his retirement, in the surrounding district. Public medical appointments were soon added to his private work, for he became public vaccinator and medical officer of health of the Rhayader union, and in 1881 the first medical officer and secretary of the Llandrindod Wells Cottage Hospital and Convalescent Home, an institution which he was a prime agent in establishing. In 1903 he retired to the consulting staff of the hospital. Soon after his settlement in the town he became acquainted with its mineral waters and consequently impressed with its potentialities as a Spa for the treatment of disease; accordingly he set himself to the study of balneology and hydrotherapy to such purpose that he was able to impress the advantages of Llandrindod Wells in this connexion upon his own profession to the very great benefit of the place. His enthusiasm for the subject was reflected in many writings and subsequently gained him the presidency of the British Balneological and Climatological Society. He also took an interest in the promotion of the Spa by journalism and was a chief promoter of the first local newspaper. In 1884 he held the presidency of the Shropshire and Mid-Wales branch of the British Medical Association and delivered his address from the chair on Llandrindod Wells as a Health Resort. He gave very valuable advice to his town upon the subjects of sewerage, water-supply, road improvement, and lighting, and lived to see the electric installation which he had long advocated. Under his management a sample of saline water was sent from the Spa to an exhibition at Frankfort where it was awarded a bronze medal, a distinction which gave Mr. Davies the greatest pleasure. The result of all this work was that Llandrindod Wells became a justly popular health resort, a consummation which it owes largely to the subject of this memoir. His other public activities were concerned chiefly with three interests, the welfare of the Anglican church in his town, of which he was churchwarden for many years of whole-hearted service, the struggle to obtain proper local government for its local affairs, and the education problem for his district. He was one of the first aldermen to be appointed to the Radnorshire county council on its formation in 1889, a body which since 1891 has met at Llandrindod Wells. This opportune change of venue gave the town sufficient distinction to be granted a local board of its own, of which Mr. Davies was unanimously elected chairman, holding office until in 1894 this body was succeeded by an urban district council, the chair of which he was again chosen to fill, for his advice on sanitary matters was found to be of the utmost value to the town. He devoted untiring attention to this office, although at the same time he was carrying on a large professional practice, was a commissioner for taxes, and had also been placed on the commission of the peace. He was equally untiring in his efforts to spread the knowledge of the Spa's merits and among the contributions to literature which he made with this object were "A Report on the Medicinal Properties of the Mineral Waters at Llandrindod Wells," "A History of Llandrindod Wells," and "The Spa Treatment of Arthritis Deformans." He took a keen and practical interest in meteorology and compiled systematic records of local weather conditions and rainfall. He was a promoter of the eisteddfods held at Llandrindod Wells, and in fact joined enthusiastically in every enterprise into the more black sheep were discovered. The Government had got past the stage of relying on sworn statements to prevent people being deluded or practically poisoned and intended to leave such matters to an analyst who would be appointed for the Commonwealth. The Bill alluded to only intended to stop injurious importations and impostures. He was glad to hear the delegates say that the statement about the withdrawal of advertisements was not a threat. He would carefully consider what the delegates had placed before him. Certain powers were proposed to be given that would permit the Governor-General in Council to prescribe in certain cases that formulæ need not be disclosed. Since then the delegates have made further representations of a similar nature and have attached the following letter to their memorandum; the signatures are those of all the leading wholesale druggists and other influential mercantile firms:—

> We, the undersigned, wholesale distributors of patent and proprietary medicines and foods, beg to state that we have heard the views expressed by the delegates from the Proprietary Articles Section of the London Chamber of Commerce, and agree with them that it would be impracticable to demand that proprietors should reveal their formulæ, as such disclosure would result in the total loss of their trade rights. We believe that the alternative proposal they put forward will effectually safeguard the public, and, at the same time, eliminate from the market undesirable articles, viz., that a list of deleterious and objectionable drugs and poisons be scheduled, and that all proprietors be called upon to make a declaration whether their goods do or do not contain any of these ingredients.

Signed—

Felton, Grimwade, and Co.
Rocke, Tompsitt, and Co.
Duerdin and Sainsbury.
Peterson and Co.
James Service and Co.
Henry Berry.
John Connell and Co., Pty. Ltd
Rolfe and Co.
Virgoe, Son, and Chapman.

Loss on Condemned Carcasses.

Mr. Brown, the Victorian supervisor of export food-supplies, has been giving close consideration to the question of compensating butchers for losses by the condemnation of purchased beasts. He has come to the conclusion that the butcher is the last man on whom the loss should fall, as he buys the animals in yards where they are passed by inspectors as sound. No man living can tell how a live beast showing no sign of disease will turn out when slaughtered. Dr. Brown suggests that the agents should increase their selling charge ¼ per cent. and that a fund should be established to cover the losses if condemned. As an alternative Dr. Brown would favour any workable scheme by which the loss would fall on the particular owner whose beasts are condemned, though the apparent objection to the first proposal is minimised by the fact that nearly every grazier becomes possessed of diseased stock sooner or later, so that he would not as a rule contribute to a fund merely for the benefit of others. Dr. Brown is convinced that some remedy is called for.

"Nature Study" and Enteric Fever.

The Education Department of Victoria has recently made a great feature of "nature study" for State school children. At Beechworth, a country centre, enteric fever has been very prevalent of late, and the local health officer, Dr. D. Skinner, in a report on ten cases coming under his notice, remarked: "In several of the cases I have found that the sufferers had been hunting for tadpoles in the dirty pools of Spring Neck and Holme's Neck, which are nothing but collections of sewage of the filthiest type. This is part of the 'nature study' which is at present one of the fads of the Education Department. But I should say that a little study of the local sanitary conditions would be of much greater advantage to both the rising generation and their teachers." The council directed that copies of the report should be forwarded to the Board of Public Health and to the head master of the school.

Personal Items.

Dr. Henry Maudsley of Melbourne is leaving by the *Asturias* for a short visit to England. Dr. Maudsley was entertained at dinner by a number of fellow members of the profession who wished him a pleasant trip.—Sir Thomas Fitzgerald has recently suffered from a severe attack of pneumonia and at one period of his illness his condition gave rise to grave concern. He has now convalesced satisfactorily and has been able to go to Sydney for a change.—The David Syme Research Scholarship in the University of Melbourne has this year been awarded to Dr. Basil Kilvington for his work in the healing and degeneration of nerves. The award carries a monetary value of £100.

April 6th.

Obituary.

CHARLES EDWARD UNDERHILL, B.A., M.B. Cantab., F.R.C.S. Edin., M.R.C.S. Eng., F.R.S. Edin.,

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

For the first time in its history the Royal College of Physicians of Edinburgh has had to mourn the death of the occupant of its presidential chair. The occurrence has been felt deeply owing to the very special position which the President occupied. Few men in Edinburgh have called out such steady esteem and admiration, deepening into affection, as did Dr. C. E. Underhill. The knowledge that when last year he accepted the presidential chair he was suffering from aortic disease added a note of heroism to his occupancy of it and elicited the generous admiration which quiet and steadfast pluck tends to do. Those who knew him intimately had the greatest admiration for the kindly courtesy of his manner, the straightforwardness of his life, the purity of his motives, the soundness of his judgment, and the culture of his mind. He was a loyal friend and of enemies he can hardly be said to have had any. Such a man is a very valuable possession in a medical community and it is well that his brethren and his College should so truly mourn his loss. It was first and foremost as a man that Dr. Underhill made his impress upon the profession. He did not write much, but what he did write would have vindicated a claim to write more had he been so minded. He life was devoted to his patients inside the hospitals and to a large and influential *clientèle* in Edinburgh and its neighbourhood. He died on April 24th and was buried on the 28th in the Dean Cemetery. The service was held in the church of St. John the Evangelist, Bishop Dowden taking part in it. The Fellows of both Colleges attended the funeral in their official robes.

Charles Edward Underhill was born in 1845 and was the second son of Mr. Lees Underhill, F.R.C.S., of Tipton, Staffordshire. He was a graduate of Cambridge, having taken his B.A. degree in 1867 and his M.B. degree in 1870. He completed his medical studies in Edinburgh and became assistant to Dr. Matthews Duncan. When Dr. Duncan went to London Dr. Underhill succeeded to much of his practice. He became a Fellow of the Royal College of Surgeons of Edinburgh in 1872 and of the Royal College of Physicians four years later. He was one of the physicians to the Maternity Hospital for many years and served as a physician to the Royal Hospital for Sick Children. He held the double office of medical officer of health and police surgeon to the city of Edinburgh. He was for many years treasurer of the Edinburgh branch of the British Medical Association. He became president of the branch more recently. He was a past president of the Edinburgh Royal Medical Society, of the Edinburgh Obstetrical Society, of the Edinburgh Medico-Chirurgical Society, and of the Edinburgh Harveian Society, and he was thus a prominent member of the most distinguished medical circle in Edinburgh. In every position which he held he gained but one opinion as to the admirable manner in which he discharged the duties.

Dr. Underhill had no family and is survived by Mrs. Underhill, with whom much sympathy is felt. The funeral was attended by four brothers and one cousin, all members of the medical profession.

HENRY JOHN PRANGLEY, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A.

We sincerely regret to announce the death, after a few days' illness, from angina pectoris of Mr. Henry John Prangley, well known and highly esteemed as a practitioner in Anerley and the neighbourhood, at the comparatively early age of 50 years. He was the son of Mr. John Pearce Prangley, solicitor, of Heytesbury, in Wiltshire, and was born in that town on Sept. 14th, 1857. His school days were spent at St. Nicholas College, Hurstpierpoint, where he took many prizes, showing a particular aptitude for mathematics. On leaving school he was apprenticed to Dr. Willis, who was medical officer of health of Monmouth, and subsequently proceeded to St. Thomas's Hospital which he joined in 1875. Whilst at the hospital he both worked and played with the energy which characterised him and as a student, as indeed throughout his life, he was drive to Ospedaletti, a sheltered bay between Bordighera and San Remo. A trip by steamer was arranged to Monte Carlo for the 16th. The whole of the proceedings passed off with great *éclat*.

Sir Samuel Wilks who underwent a somewhat serious operation upon May 1st is, we are glad to be able to state, progressing favourably.

FREEMASONRY.—Dr. Samuel West, F.R.C.P., and Dr. Charles Wells have had the honour of being appointed Grand Officers of the United Grand Lodge of England.

PRESENTATION TO A MEDICAL PRACTITIONER.—At the distribution of certificates to the Dartmouth corporation fire brigade class of the St. John Ambulance Association on April 25th Mr. John Henry Harris, M.D. Durh., M.R.C.S. Eng., L.S.A., was presented with a silver cigarette case as a mark of appreciation of his services as honorary instructor.

THE ROYAL SANITARY INSTITUTE.—A discussion will be held in the Music Hall, Shrewsbury, on Saturday, May 23rd, at 11 A.M., on "The Inspection of Dairies and Cowsheds," which will be opened by Mr. T. W. H. Garstang, D.P.H., medical officer of health, Bucklow R.D.C., under the chairmanship of Colonel J. Lane Notter, R.A.M.C., deputy chairman of the council of the Institute. General discussion is invited. In the afternoon a visit will be made to the Shrewsbury Sewage Farm.

DONATIONS AND BEQUESTS.—The late Mr. C. E. Gael, of Charlton Kings, Gloucestershire, has bequeathed £500 each to the Cheltenham General Hospital, the Delancey Fever Hospital, and the Cheltenham Eye, Throat, and Ear Hospital.—£2300 have been received already towards the fund for reducing the debt of the Royal Devon and Exeter Hospital. This includes £1000 from the late Mr. R. Wood of Sidmouth, £1000 from Mrs. Nosworthy of Dawlish, and £20 from Viscount Sidmouth.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.—In response to the desires of a number of school medical officers arrangements are being made for a short course of lectures and demonstrations to be given in London during Whit-week. Dr. James Kerr, Dr. H. Meredith Richards, Dr. C. J. Thomas, and other experienced medical inspectors have already promised to give addresses, and demonstrations of the details of actual medical inspection will also be arranged. School medical officers desiring to avail themselves of the course are requested to communicate with Mr. W. A. Lawton, at the offices of the Incorporated Society of Medical Officers of Health, 1, Upper Montague-street, Russell-square, London, W.C.

THE HERTFORD GENERAL INFIRMARY AND DR. J. T. TASKER-EVANS.—On April 30th a testimonial, which had been subscribed for by the governors and supporters of the Hertford General Infirmary, was presented to Dr. J. T. Tasker-Evans upon his retirement from the post of honorary medical officer after 29 years' service. The presentation took the shape of a silver tea and coffee service and silver electro-plated tray, with a cheque for 40 guineas, whilst a gold necklet was presented to Mrs. Tasker-Evans. It is worthy of note that during the course of the proceedings reference was made to a proposal to substitute for the name "Infirmary" the word "Hospital." Unfortunately, in the lay mind the name "*Infirmary*" is associated with Poor-law charity and it would no doubt be of great advantage to the institution in question if the name were changed as suggested.

LONGEVITY.—The Rev. Thomas Lord, Congregational minister of Horncastle, Lincolnshire, has recently celebrated the hundredth anniversary of his birthday, having been born at Olney, Buckinghamshire, on April 22nd, 1808. Mr. Lord is said to take a two-mile walk every day. For 75 years he has been connected with the temperance movement and about a month ago he preached the Band of Hope anniversary sermons at Wainfleet. He has been married three times but is now a widower and resides with his daughter and son-in-law, Mr. and Mrs. C. M. Hodgett. He has been a lifelong non-smoker.—Lord Gwydyr has recently completed his ninety-eighth year, having been born in 1810. He is High Steward of Ipswich, in the neighbourhood of which he resides, and was for many years chairman of the Suffolk quarter sessions. From 1833 to 1870 he was secretary to the Lord Great Chamberlain. He has one son who is himself a grandfather.

ROYAL MICROSCOPICAL SOCIETY.—At a meeting of the Royal Microscopical Society held on April 15th a communication by Mr. J. Strachan on Dendritic Growths of Copper Oxide in Paper was read by Mr. Shillington Scales. Minute particles of copper were found in all kinds of paper, whether composed of linen, esparto grass, or wood pulp, and had no doubt been abraded from the paper-making machinery. The dendritic formation was due to partial solution of those particles and subsequent deposition of insoluble oxide. Mr. F. Enock delivered a lecture on Nature's Protection of Insect Life, illustrated by lantern slides taken by three-colour photography.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next general or quarterly meeting will be held at 11, Chandos-street, Cavendish-square, London, W., on Tuesday, May 19th, under the presidency of Dr. P. W. Macdonald, at 3 P.M. A paper and lantern demonstration on Some Points in the Histology of Lymphogenous and Hæmatogenous Toxic Lesions of the Spinal Cord will be given by Dr. David Orr and Dr. R. G. Rows. A discussion will be introduced by Dr. D. G. Thomson on the Teaching of Psychiatry. Members will afterwards dine together at the Café Monico, Piccadilly-circus, W., at 7 o'clock, when it is hoped that as many as possible will join. The price of the dinner, exclusive of wine, will be 7*s.* 6*d.* Evening dress optional.

THE CHEMISTS' EXHIBITION.—Once again this exhibition is being held in its old quarters at the Royal Horticultural Hall, Vincent-square, Westminster. The stalls are as attractively arranged as usual, and although perhaps there is no special novelty of a striking character shown yet on all sides are found exhibits that appeal not only to members of the drug and allied trades but also fulfil the useful function of bringing before the notice of members of the medical profession the many modifications in the methods of putting up some of the older drugs, whilst at the same time the exhibits illustrate by practical example many of the newer forms of medicaments. The feature that impresses itself most on a visitor is perhaps the great advance that has been made during recent years in the methods of administration of nauseous drugs which have now been converted by the skill of the mixer and compounder into almost attractive sweetmeats. The exhibition opened on Monday and will close to-day (Friday).

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Education of Afflicted Children in Ireland.

MR. CHARLES CRAIG has introduced a Bill into the House of Commons "to provide for the better education of afflicted children in Ireland."

Medical Inspection of School Children in Scotland.

The Scotch Education Bill, which has received a second reading in the House of Commons, contains a clause that school boards in Scotland "may and where required by the department shall provide" for the medical examination and supervision of the pupils attending schools within their districts on lines laid down by the Scotch Education Department. For the purposes of this inspection the boards are authorised to appoint such medical officers as may be necessary. Several speakers in the course of the debate expressed satisfaction that the Government had dealt with this subject in the Bill.

HOUSE OF LORDS.

WEDNESDAY, MAY 6TH.

Official Directory of Nurses Bill.

Lord BALFOUR of BURLEIGH moved the second reading of the Official Directory of Nurses Bill. He explained that after a nurse had left a hospital and set up in practice there was often great difficulty in ascertaining what were her qualifications. His Bill therefore provided that there should be an official directory in which should be inserted the names of nurses with such particulars as the Privy Council might direct. The Bill set forth that "every nurse who has received training in nursing at a hospital, infirmary, or other institution for the cure of the sick in Great Britain or Ireland, and not being an institution carried on for private gain, shall be entitled, on application to the Registrar, to have his or her name entered in the Directory, together with such particulars as shall for the advancement of the town. For many years he was a manager of the national school and took an ardent part in obtaining a county school for his neighbourhood. Unhappily, his health failed during last year and in July he retired to Exmouth in Devonshire where his death took place; there can be no doubt it was accelerated by his extraordinary activity. He was held in the tenderest regard by an exceptionally wide circle of friends, and his funeral, on April 29th, was made a public ceremony, officially attended by his urban district council. Mr. Davies married in 1879 Miss *Jessie* Rankin, daughter of the late Mr. William Rankin of Handsworth, Staffordshire, who, with two sons and four daughters, survives him.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Béchamp, formerly professor of chemistry in the Medical Faculty of the University of Montpellier and corresponding member of the Paris Academy of Medicine. — Dr. Féron-Vrau, formerly professor in the Medical Faculty of the University of Lille.—Dr. Rieshetillo, formerly *privat-docent* of dermatology in the University of Moscow.—Dr. Nabias, professor of materia medica in the University of Bordeaux.—Dr. Gestin, formerly Director-General of the French Naval Medical Service.—Dr. Franz von Leydig who had been professor of comparative anatomy and zoology and director of the Zoological Museum in Bonn for some 12 years until his retirement more than 20 years ago. He was born at Rothenburg, to which town he returned after his retirement and where he remained until his death. Before his appointment to Bonn he was for several years professor in Tübingen. He published a work entitled "Histology, Human and Comparative," in 1857, and later a "Manual of Comparative Anatomy," which, however, never seems to have been completed. His age was 86 years.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following degree was conferred on May 1st:—

B.C.—C. B. Ticehurst, St. John's College.

The special board for medicine has issued new schedules in chemistry and physics which will come into operation at the examination at Christmas, 1908.

FOREIGN UNIVERSITY INTELLIGENCE.—*Breslau:* Dr. Jean Schaffer, *privat-docent* of Dermatology, has been granted the title of Professor.—*Copenhagen:* Dr. O. U. Maalöe has been recognised as *privat-docent* of Pathological Anatomy. Dr. V. Schaldemose has been promoted to an Extraordinary Professorship of Surgery.—*Kieff:* Dr. Laudenbach has been appointed to the chair of Physiology.—*Naples:* Dr. Eugenio Scarpitti has been recognised as *privat-docent* of Medical Pathology.—*St. Petersburg (Military Medical Academy):* Dr. W. Oppel has been promoted to an Extraordinary Professorship of Surgical Pathology and Therapeutics.—*Utrecht:* Dr. H. P. Wijsmann of Leyden has been appointed Extraordinary Professor of Pharmacology and Alimentary Hygiene.—*Vienna:* Dr. Franz Hamburger has been appointed to succeed Professor Frühwald in the charge of the Children's Department of the Policlinic.

LITERARY INTELLIGENCE.—Messrs. Henry Frowde and Hodder and Stoughton will publish during May the second edition of "Operations of General Practice" by Mr. Edred M. Corner and Dr. H. I. Pinches; also the following new books: "A System of Syphilis," Vol. I., edited by Mr. D'Arcy Power and Mr. J. Keogh Murphy; "The Writings of the late Sir William Broadbent, F.R.S.," collected and edited by Dr. Walter Broadbent; "Glandular Enlargements and Other Diseases of the Lymphatic System," by Mr. Arthur Edmunds of the Great Northern Central Hospital; "The Law in General Medical Practice, or Clinical Jurisprudence," by Dr. Stanley B. Atkinson, secretary of the Medico-Legal Society; "Diseases of the Eye," by Mr. M. Stephen Mayou of the Central London Ophthalmic Hospital; and "Gunshot Wounds," by Major C. G. Spencer, R.A.M.C. The above publishers also have in active preparation "Heart Diseases," by Dr. James Mackenzie, author of "The Study of the Pulse," and "The Rectum, its Diseases and Developmental Defects," by Sir Charles Ball.—Messrs. Smith, Elder and Co. have almost ready for publication a work on "Animal Life" by Dr. F. W. Gamble, lecturer in zoology, Owens College, Manchester. The volume comprises a series of studies in the life-history of typical members of the animal kingdom, describing their vital activities in relation to their structure, and the general scheme of development, based upon a series of lectures delivered to the students of the Owens College, Manchester. It will include a coloured frontispiece and numerous line and half-tone illustrations.

UNIVERSITY OF OXFORD.—The following dates of examinations have been announced:—Examination for the Degree of Bachelor of Medicine: Thursday, June 18th, to Friday, June 26th; names to be sent in by 10.30 A.M. on Tuesday, June 2nd. Examination for the Degree of Master in Surgery: Thursday, June 25th *et seq.*; names to be sent in by 10.30 A.M. on Friday, June 5th. Examination in Preventive Medicine: Tuesday, Nov. 17th (Part I.), Wednesday, Nov. 18th, to Friday, Nov. 20th (Part II.); names to be sent in by 10.30 A.M. on Tuesday, Oct. 27th. Natural Science Scholarships: Scholarships in natural science are announced at Balliol and Brasenose Colleges; the examination will commence on Tuesday, June 30th.

ROYAL COLLEGE OF SURGEONS IN IRELAND: GENERAL MEETING AND ELECTION OF OFFICERS.—A meeting of the College will be held on Saturday, May 30th, at 1 o'clock, to receive the annual report of the Council. Notices of motion received by the registrar on or before Tuesday, May 19th, will have priority of consideration over any others which may be submitted. A meeting of the College will also be held on Monday, June 1st, at 1 o'clock, pursuant to the provisions of the Charters, to elect a President, Vice-President, council, and secretary of the College for the ensuing year. Fellows who may desire to have their names printed on the list of candidates for office will please signify their wish by letter to the registrar at the College on or before Tuesday, May 19th, as it is necessary to include the names in the voting-papers which are forwarded to the Fellows, and no candidate is eligible unless his application is received within the date specified.

UNIVERSITY OF LONDON.—A course of eight lectures on the Structure and Functions of the Central Nervous System will be given in the physiological department of University College by Dr. W. Page May, Fellow and lecturer of the College, on Wednesdays, at 5 P.M., beginning on May 13th. The syllabus is as follows: (1) Recent Advances in Our Knowledge of Nerve Cells and Fibrils; (2) the Peripheral Nerves and Ganglia in their Relation to the Central Nervous System; (3) the Centres and Paths of the Spinal Cord; (4) Certain Points in the Brain Stem; (5) Recent Researches on the Cerebellum; (6) the Cerebral Cortex and Optic Thalamus; (7) the Afferent Paths of the Central Nervous System; and (8) the Efferent Paths of the Central Nervous System. These lectures are open to all students of the University of London, also to qualified medical men on presentation of their cards, and to such other persons as are specially admitted.

HYDROLOGY AND CLIMATOLOGY.—The Ninth Italian Congress of Hydrology and Climatology was held at San Remo from April 12th to 15th, under the presidency of Dr. U. Martemucci, at which Dr. Frederic Bagshawe of Hastings, chairman of council of the British Balneological and Climatological Society, was present as delegate of the society. Professor Maragliano of Genoa delivered an address on Sanatoriums for the Tuberculous in Relation to Public Health and gave the reasons why such institutions were not used along the Riviera. Very numerous papers followed, both in the morning and the afternoon. On April 14th the morning sitting was opened by a paper by Professor Vinai on the Treatment of Arterial Hypertension. Other papers and discussions followed. On the afternoon of the opening day a garden party and excursion took place at the golf links at Taggia, some three miles distant, which was largely attended. On the 14th the banquet of the association was held; it was attended by 125 members and many eloquent speeches were made. On the 15th a very enjoyable excursion took place to Bordighera, where a sumptuous luncheon was given by the hotel keepers at the Grand Hotel, Angst, to 120 guests, followed by a drive on the hills and a garden party given by Mr. Berry at the Villa Monteverde, and afterwards a drive to Ospedaletti, a sheltered bay between Bordighera and San Remo. A trip by steamer was arranged to Monte Carlo for the 16th. The whole of the proceedings passed off with great *éclat*.

Sir Samuel Wilks who underwent a somewhat serious operation upon May 1st is, we are glad to be able to state, progressing favourably.

Freemasonry.—Dr. Samuel West, F.R.C.P., and Dr. Charles Wells have had the honour of being appointed Grand Officers of the United Grand Lodge of England.

Presentation to a Medical Practitioner.—At the distribution of certificates to the Dartmouth corporation fire brigade class of the St. John Ambulance Association on April 25th Mr. John Henry Harris, M.D. Durh., M.R.C.S. Eng., L.S.A., was presented with a silver cigarette case as a mark of appreciation of his services as honorary instructor.

The Royal Sanitary Institute.—A discussion will be held in the Music Hall, Shrewsbury, on Saturday, May 23rd, at 11 A.M., on "The Inspection of Dairies and Cowsheds," which will be opened by Mr. T. W. H. Garstang, D.P.H., medical officer of health, Bucklow R.D.C., under the chairmanship of Colonel J. Lane Notter, R.A.M.C., deputy chairman of the council of the Institute. General discussion is invited. In the afternoon a visit will be made to the Shrewsbury Sewage Farm.

Donations and Bequests.—The late Mr. C. E. Gael, of Charlton Kings, Gloucestershire, has bequeathed £500 each to the Cheltenham General Hospital, the Delancey Fever Hospital, and the Cheltenham Eye, Throat, and Ear Hospital.—£2300 have been received already towards the fund for reducing the debt of the Royal Devon and Exeter Hospital. This includes £1000 from the late Mr. R. Wood of Sidmouth, £1000 from Mrs. Nosworthy of Dawlish, and £20 from Viscount Sidmouth.

The Medical Inspection of School Children.—In response to the desires of a number of school medical officers arrangements are being made for a short course of lectures and demonstrations to be given in London during Whit-week. Dr. James Kerr, Dr. H. Meredith Richards, Dr. C. J. Thomas, and other experienced medical inspectors have already promised to give addresses, and demonstrations of the details of actual medical inspection will also be arranged. School medical officers desiring to avail themselves of the course are requested to communicate with Mr. W. A. Lawton, at the offices of the Incorporated Society of Medical Officers of Health, 1, Upper Montague-street, Russell-square, London, W.C.

The Hertford General Infirmary and Dr. J. T. Tasker-Evans.—On April 30th a testimonial, which had been subscribed for by the governors and supporters of the Hertford General Infirmary, was presented to Dr. J. T. Tasker-Evans upon his retirement from the post of honorary medical officer after 29 years' service. The presentation took the shape of a silver tea and coffee service and silver electro-plated tray, with a cheque for 40 guineas, whilst a gold necklet was presented to Mrs. Tasker-Evans. It is worthy of note that during the course of the proceedings reference was made to a proposal to substitute for the name "Infirmary" the word "Hospital." Unfortunately, in the lay mind the name "Infirmary" is associated with Poor-law charity and it would no doubt be of great advantage to the institution in question if the name were changed as suggested.

Longevity.—The Rev. Thomas Lord, Congregational minister of Horncastle, Lincolnshire, has recently celebrated the hundredth anniversary of his birthday, having been born at Olney, Buckinghamshire, on April 22nd, 1808. Mr. Lord is said to take a two-mile walk every day. For 75 years he has been connected with the temperance movement and about a month ago he preached the Band of Hope anniversary sermons at Wainfleet. He has been married three times but is now a widower and resides with his daughter and son-in-law, Mr. and Mrs. C. M. Hodgett. He has been a life-long non-smoker.—Lord Gwydyr has recently completed his ninety-eighth year, having been born in 1810. He is High Steward of Ipswich, in the neighbourhood of which he resides, and was for many years chairman of the Suffolk quarter sessions. From 1833 to 1870 he was secretary to the Lord Great Chamberlain. He has one son who is himself a grandfather.

Royal Microscopical Society.—At a meeting of the Royal Microscopical Society held on April 15th a communication by Mr. J. Strachan on Dendritic Growths of Copper Oxide in Paper was read by Mr. Shillington Scales. Minute particles of copper were found in all kinds of paper, whether composed of linen, esparto grass, or wood pulp, and had no doubt been abraded from the paper-making machinery. The dendritic formation was due to partial solution of those particles and subsequent deposition of insoluble oxide. Mr. F. Enock delivered a lecture on Nature's Protection of Insect Life, illustrated by lantern slides taken by three-colour photography.

Medico-Psychological Association of Great Britain and Ireland.—The next general or quarterly meeting will be held at 11, Chandos-street, Cavendish-square, London, W., on Tuesday, May 19th, under the presidency of Dr. P. W. Macdonald, at 3 P.M. A paper and lantern demonstration on Some Points in the Histology of Lymphogenous and Hæmatogenous Toxic Lesions of the Spinal Cord will be given by Dr. David Orr and Dr. R. G. Rows. A discussion will be introduced by Dr. D. G. Thomson on the Teaching of Psychiatry. Members will afterwards dine together at the Café Monico, Piccadilly-circus, W., at 7 o'clock, when it is hoped that as many as possible will join. The price of the dinner, exclusive of wine, will be 7*s.* 6*d.* Evening dress optional.

The Chemists' Exhibition.—Once again this exhibition is being held in its old quarters at the Royal Horticultural Hall, Vincent-square, Westminster. The stalls are as attractively arranged as usual, and although perhaps there is no special novelty of a striking character shown yet on all sides are found exhibits that appeal not only to members of the drug and allied trades but also fulfil the useful function of bringing before the notice of members of the medical profession the many modifications in the methods of putting up some of the older drugs, whilst at the same time the exhibits illustrate by practical example many of the newer forms of medicaments. The feature that impresses itself most on a visitor is perhaps the great advance that has been made during recent years in the methods of administration of nauseous drugs which have now been converted by the skill of the mixer and compounder into almost attractive sweetmeats. The exhibition opened on Monday and will close to-day (Friday).

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Education of Afflicted Children in Ireland.

Mr. Charles Craig has introduced a Bill into the House of Commons "to provide for the better education of afflicted children in Ireland."

Medical Inspection of School Children in Scotland.

The Scotch Education Bill, which has received a second reading in the House of Commons, contains a clause that school boards in Scotland "may and where required by the department shall provide" for the medical examination and supervision of the pupils attending schools within their districts on lines laid down by the Scotch Education Department. For the purposes of this inspection the boards are authorised to appoint such medical officers as may be necessary. Several speakers in the course of the debate expressed satisfaction that the Government had dealt with this subject in the Bill.

HOUSE OF LORDS.

Wednesday, May 6th.

Official Directory of Nurses Bill.

Lord Balfour of Burleigh moved the second reading of the Official Directory of Nurses Bill. He explained that after a nurse had left a hospital and set up in practice there was often great difficulty in ascertaining what were her qualifications. His Bill therefore provided that there should be an official directory in which should be inserted the names of nurses with such particulars as the Privy Council might direct. The Bill set forth that "every nurse who has received training in nursing at a hospital, infirmary, or other institution for the cure of the sick in Great Britain or Ireland, and not being an institution carried on for private gain, shall be entitled, on application to the Registrar, to have his or her name entered in the Directory, together with such particulars as shall for the advancement of the town. For many years he was a manager of the national school and took an ardent part in obtaining a county school for his neighbourhood. Unhappily, his health failed during last year and in July he retired to Exmouth in Devonshire where his death took place; there can be no doubt it was accelerated by his extraordinary activity. He was held in the tenderest regard by an exceptionally wide circle of friends, and his funeral, on April 29th, was made a public ceremony, officially attended by his urban district council. Mr. Davies married in 1879 Miss Jessie Rankin, daughter of the late Mr. William Rankin of Handsworth, Staffordshire, who, with two sons and four daughters, survives him.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Dr. Béchamp, formerly professor of chemistry in the Medical Faculty of the University of Montpellier and corresponding member of the Paris Academy of Medicine.—Dr. Féron-Vrau, formerly professor in the Medical Faculty of the University of Lille.—Dr. Riêshêtillo, formerly *privat-docent* of dermatology in the University of Moscow.—Dr. Nabias, professor of materia medica in the University of Bordeaux.—Dr. Gestin, formerly Director-General of the French Naval Medical Service.—Dr. Franz von Leydig who had been professor of comparative anatomy and zoology and director of the Zoological Museum in Bonn for some 12 years until his retirement more than 20 years ago. He was born at Rothenburg, to which town he returned after his retirement and where he remained until his death. Before his appointment to Bonn he was for several years professor in Tübingen. He published a work entitled "Histology, Human and Comparative," in 1857, and later a "Manual of Comparative Anatomy," which, however, never seems to have been completed. His age was 86 years.

Medical News.

University of Cambridge.—The following degree was conferred on May 1st:—

B.C.—C. B. Ticehurst, St. John's College.

The special board for medicine has issued new schedules in chemistry and physics which will come into operation at the examination at Christmas, 1908.

Foreign University Intelligence.—*Breslau:* Dr. Jean Schaffer, *privat-docent* of Dermatology, has been granted the title of Professor.—*Copenhagen:* Dr. C. U. Maalöe has been recognised as *privat-docent* of Pathological Anatomy. Dr. V. Schaldemose has been promoted to an Extraordinary Professorship of Surgery.—*Kieff:* Dr. Laudenbach has been appointed to the chair of Physiology.—*Naples:* Dr. Eugenio Scarpitti has been recognised as *privat-docent* of Medical Pathology.—*St. Petersburg (Military Medical Academy):* Dr. W. Oppel has been promoted to an Extraordinary Professorship of Surgical Pathology and Therapeutics.—*Utrecht:* Dr. H. P. Wijsmann of Leyden has been appointed Extraordinary Professor of Pharmacology and Alimentary Hygiene.—*Vienna:* Dr. Franz Hamburger has been appointed to succeed Professor Frühwald in the charge of the Children's Department of the Policlinic.

Literary Intelligence.—Messrs. Henry Frowde and Hodder and Stoughton will publish during May the second edition of "Operations of General Practice" by Mr. Edred M. Corner and Dr. H. I. Pinches; also the following new books: "A System of Syphilis," Vol. I., edited by Mr. D'Arcy Power and Mr. J. Keogh Murphy; "The Writings of the late Sir William Broadbent, F.R.S.," collected and edited by Dr. Walter Broadbent; "Glandular Enlargements and Other Diseases of the Lymphatic System," by Mr. Arthur Edmunds of the Great Northern Central Hospital; "The Law in General Medical Practice, or Clinical Jurisprudence," by Dr. Stanley B. Atkinson, secretary of the Medico-Legal Society; "Diseases of the Eye," by Mr. M. Stephen Mayou of the Central London Ophthalmic Hospital; and "Gunshot Wounds," by Major C. G. Spencer, R.A.M.C. The above publishers also have in active preparation "Heart Diseases," by Dr. James Mackenzie, author of "The Study of the Pulse," and "The Rectum, its Diseases and Developmental Defects," by Sir Charles Ball.—Messrs. Smith, Elder and Co. have almost ready for publication a work on "Animal Life" by Dr. F. W. Gamble, lecturer in zoology, Owens College, Manchester. The volume comprises a series of studies in the life-history of typical members of the animal kingdom, describing their vital activities in relation to their structure, and the general scheme of development, based upon a series of lectures delivered to the students of the Owens College, Manchester. It will include a coloured frontispiece and numerous line and half-tone illustrations.

University of Oxford.—The following dates of examinations have been announced:—Examination for the Degree of Bachelor of Medicine: Thursday, June 18th, to Friday, June 26th; names to be sent in by 10.30 A.M. on Tuesday, June 2nd. Examination for the Degree of Master in Surgery: Thursday, June 25th *et seq.*; names to be sent in by 10.30 A.M. on Friday, June 5th. Examination in Preventive Medicine: Tuesday, Nov. 17th (Part I.), Wednesday, Nov. 18th, to Friday, Nov. 20th (Part II.); names to be sent in by 10.30 A.M. on Tuesday, Oct. 27th. Natural Science Scholarships: Scholarships in natural science are announced at Balliol and Brasenose Colleges; the examination will commence on Tuesday, June 30th.

Royal College of Surgeons in Ireland: General Meeting and Election of Officers.—A meeting of the College will be held on Saturday, May 30th, at 1 o'clock, to receive the annual report of the Council. Notices of motion received by the registrar on or before Tuesday, May 19th, will have priority of consideration over any others which may be submitted. A meeting of the College will also be held on Monday, June 1st, at 1 o'clock, pursuant to the provisions of the Charters, to elect a President, Vice-President, council, and secretary of the College for the ensuing year. Fellows who may desire to have their names printed on the list of candidates for office will please signify their wish by letter to the registrar at the College on or before Tuesday, May 19th, as it is necessary to include the names in the voting-papers which are forwarded to the Fellows, and no candidate is eligible unless his application is received within the date specified.

University of London.—A course of eight lectures on the Structure and Functions of the Central Nervous System will be given in the physiological department of University College by Dr. W. Page May, Fellow and lecturer of the College, on Wednesdays, at 5 P.M., beginning on May 13th. The syllabus is as follows: (1) Recent Advances in Our Knowledge of Nerve Cells and Fibrils; (2) the Peripheral Nerves and Ganglia in their Relation to the Central Nervous System; (3) the Centres and Paths of the Spinal Cord; (4) Certain Points in the Brain Stem; (5) Recent Researches on the Cerebellum; (6) the Cerebral Cortex and Optic Thalamus; (7) the Afferent Paths of the Central Nervous System; and (8) the Efferent Paths of the Central Nervous System. These lectures are open to all students of the University of London, also to qualified medical men on presentation of their cards, and to such other persons as are specially admitted.

Hydrology and Climatology.—The Ninth Italian Congress of Hydrology and Climatology was held at San Remo from April 12th to 15th, under the presidency of Dr. U. Martemucci, at which Dr. Frederic Bagshawe of Hastings, chairman of council of the British Balneological and Climatological Society, was present as delegate of the society. Professor Maragliano of Genoa delivered an address on Sanatoriums for the Tuberculous in Relation to Public Health and gave the reasons why such institutions were not used along the Riviera. Very numerous papers followed, both in the morning and the afternoon. On April 14th the morning sitting was opened by a paper by Professor Vinai on the Treatment of Arterial Hypertension. Other papers and discussions followed. On the afternoon of the opening day a garden party and excursion took place at the golf links at Taggia, some three miles distant, which was largely attended. On the 14th the banquet of the association was held; it was attended by 125 members and many eloquent speeches were made. On the 15th a very enjoyable excursion took place to Bordighera, where a sumptuous luncheon was given by the hotel keepers at the Grand Hotel, Angst, to 120 guests, followed by a drive on the hills and a garden party given by Mr. Berry at the Villa Monteverde, and afterwards a a poor person on the happening of any sudden illness, although no order has been given for the same by the guardians or any of their officers or by the overseers. Under this provision the guardians may pay the fee of any medical man called in on the advice of a midwife to attend a woman in childbirth in any case of difficulty. The Board is not empowered to alter this provision so as to make it compulsory. Under the regulations which are in force in most of the unions, however, it is compulsory on the guardians to pay a fee to a Poor-law medical officer who is called upon to attend a woman in childbirth by order of a person legally qualified to make the order. They must also pay the fee if in circumstances of difficulty or danger he visits without any order any such woman who is actually receiving relief or who the guardians may subsequently decide was in a destitute condition.

Medical Officers and Indian Jails.

Mr. Rees asked the Under Secretary of State for India whether he was aware that since the introduction of the new scale of pay for Indian Medical Service officers in charge of jails there were, at any rate in the Madras Presidency, uncovenanted officers of long service in charge of central jails who did the same administrative work as medical officers in charge of central jails, but who had not been placed on the same scale of pay for their administrative work; and would he consider whether this difference should be removed and these officers be put on the same scale of pay as medical officers in administrative charge of jails, in so far as administrative and not medical duties were concerned.—Mr. Buchanan replied (by written answer): The recent improvement of the pay of members of the Indian Medical Service in charge of jails was part of a general improvement of the pay of that service introduced with a view to making the service more attractive and securing more and better qualified recruits. The same considerations do not apply in the case of the officers referred to in the question who are not members of the Indian Medical Service and whose rates of pay are determined by the conditions of their own service. The Secretary of State does not, as at present advised, see sufficient reason to take any action in the matter, which is primarily one for the consideration of the Government of India.

The Belfast Health Commission.

Mr. Devlin asked the Chief Secretary to the Lord Lieutenant of Ireland what steps, if any, were being taken to give effect to the recommendations of the Belfast Health Commission.—Mr. Birrell forwarded the following written answer: The report of the Commission, which reached the Local Government Board on April 10th, is receiving the serious consideration of the Board which has forwarded copies to the Belfast corporation with a request that a special meeting of the corporation should be summoned to consider it.

TUESDAY, MAY 5TH.

Damages for a Death from Typhoid Fever.

Mr. Bottomley asked the President of the Local Government Board whether his attention had been called to a recent case in which the authorities of the Three Counties Asylum, in Bedfordshire, were sued by a Mrs. Brown, the widow of the bailiff of the Arlesey Asylum, for damages for the loss of her husband through typhoid fever, contracted owing to defective drainage, and had damages to the extent of £650 awarded against them; whether he was aware that the authorities were represented by three counsel and produced a number of eminent experts, involving a total expenditure in connexion with the proceedings of upwards of £3000; whether they were now proposing to appeal against the decision; and, if so, whether the Local Government Board would make any representation to them before further expenditure of public funds was incurred, especially in view of the fact that Mrs. Brown was a woman without means and quite unable to bear the expense of protracted legal proceedings.—Mr. Burns replied: I have made inquiry into this matter and I understand the facts to be generally as stated in the question. I do not know the precise amount of the costs incurred in the case. I regret the expenditure involved but I am assured that every care has been taken to avoid as far as possible any unnecessary expense. Three counsel were engaged for the visiting committee, partly because their leading counsel was unexpectedly occupied in another case, and partly because the plaintiff was also represented by three counsel. The visiting committee considers that the death of the plaintiff's husband was not attributable to typhoid fever contracted owing to defective drainage, and acting on the advice of its counsel it is moving the Court of Appeal for a new trial or for judgment for the defendant. It is expected that the appeal will be heard in the course of the next few days. I have no jurisdiction which would enable me to interfere with the discretion of the visiting committee in the matter.

Typhoid Fever and Impure Water.

Mr. Bottomley asked the President of the Local Government Board whether he could state the average annual number of deaths recorded as due to typhoid fever and other diseases contracted through drinking impure water.—Mr. Burns answered: I am not aware of any records which would give the information desired.

Legislation on Milk-supply.

Mr. Courthope asked the President of the Local Government Board when the Bill dealing with the milk-supply would be introduced.—Mr. Burns said in reply: The Bill is in preparation, but I cannot at present say when it will be introduced.

Deaths under Anæsthetics.

Mr. Bramsdon asked the Prime Minister whether his attention had been called to the large number of deaths that occurred annually from the effects of anæsthetics administered to patients who were about to undergo, or were undergoing, operations, or after such operations had been performed; whether he was aware that there was no official record of the number of deaths that really occurred during anæsthesia, partly because such deaths were sometimes certified as due to causes other than anæsthesia, and in that case were not reported to the coroner, and partly because notification was not followed by official inquiry; whether he was aware that those persons who administered anæsthetics were not necessarily specially trained to do so or always registered medical practitioners; and whether, having regard to the greater safety of the public and for the advance of scientific medicine, he would consider the advisability of securing a more accurate and comprehensive knowledge of all the facts connected with the administration of anæsthetics, whether fatal or non-fatal, by appointing a Royal Commission with advisory powers to investigate and report upon the whole question.—Mr. Gladstone answered: My right honourable friend has asked me to answer this question. I have not yet completed the inquiries referred to in the answer I gave to my honourable friend on March 30th. I am not certain that a formal investigation is either necessary or desirable, but the matter is receiving careful consideration.

OOKS, ETC., RECEIVED.

Office of the Superintendent of Government Printing, India, Calcutta.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. The Development of the Leishman-Donovan Parasite in Cimex Rotundatus. Second Report. By Captain W. S. Patton, M.B., I.M.S. (on Special Duty). New Series. No. 31. Price Rupee 1, or 1*s.* 6*d.*

Rebman, Limited, 129, Shaftesbury-avenue, London, W.C.

Hematological Atlas. With a Description of the Technic of Blood Examination. By Priv. Doz. Dr. Karl Schleip, Scientific Assistant in the Medical Clinic, University of Freiburg i.B. English Adaptation of Text by Frederic E. Sondern, M.D., Professor of Clinical Pathology, New York Post-Graduate Medical School and Hospital; Director of Clinical Laboratory, New York Lying-in Hospital. Price 42*s.* net.

Richards, Grant, 7, Carlton-street, London, S.W.

The Birds of the British Islands. By Charles Stonham, C.M.G., F.R.C.S., F.Z.S. With Illustrations by Lilian M. Medland, F.Z.S. In Twenty Parts. Part X. Price 7*s.* 6*d.* net.

Springer, Julius, Monbijouplatz, 3, Berlin, N. 24.

Die neuren Arzneimittel in der ärztlichen Praxis. Wirkungen und Nebenwirkungen, Indikationen und Dosierung. Vom k.u.k. Militär-Sanitäts-Comité in Wien preisgekrönte Arbeit. Von Dr. A. Skutetzky, k.u.k. Regimentsarzt in Mähr.-Weisskirchen. Mit einem Geleitwort von Professor Dr. J. Nevinny. Price M.7.; geb., M. 8.

Ergebnisse der Inneren Medizin und Kinderheilkunde. Herausgegeben von F. Kraus, O. Minkowski, Fr. Müller, H. Sahli, A. Czerny, und O. Heubner. Redigiert von Th. Brugsch, Berlin; L. Langstein, Berlin; Erich Meyer, München; und A. Schittenhelm, Erlangen. Erster Band. Price M.18.-; in halblēder geb., M.20.50.

Thurnam, Charles, and Sons, Carlisle. (Simpkin, Marshall, and Co., London.)

Careers for Our Sons. A Practical Handbook to the Professions and Commercial Life. By Rev. George H. Williams, M.A. Oxon., Headmaster of Carlisle Grammar School, Member of the Carlisle Education Authority, Member of the Headmasters' Conference. With a Preface by the Rt. Hon. Lord Morpeth, M.P. Price 4*s.* 6*d.* net; post free 5*s.*

Vogel, F. C. W., Leipzig.

Spezielle Diagnose der Inneren Krankheiten. Ein Handbuch für Aerzte und Studierende. Nach Vorlesungen bearbeitet von Dr. Wilhelm v. Leube, Professor der Mediz. Klinik und Oberarzt am Julinsspital in Würzburg. II. Band. Siebente vollständig umgearbeitete Auflage. Price M.16.

Die Lehre von der Intubation. Von Prof. Dr. J. von Bókay, Direktor des "Stefanie" Kinderspitals zu Budapest, Ehrenmitglied der "Moskauer kinderärztlichen Gesellschaft," korrespondierendes Mitglied der "Société de Pédiatrie" in Paris und der "Aerztlichen Akademie" in Rom. Price M.10.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Carlyle, Oliver, L.R.C.P. & S. Edin., has been appointed House Surgeon to Salford Royal Hospital.

Carstairs, J. Lindley, M.B., C.M. Glasg., has been appointed Assistant Obstetric Physician to the Maternity and Women's Hospital, Glasgow.

Chapman, J. S., M.B., B.S. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Turriff District of the county of Aberdeen.

Johnston, D. J. G., M.B., B.S. Aberd., has been appointed Assistant Medical Officer of Health of Ipswich.

Mathieson, D. Morley, M.B., Ch.B. Edin., D.P.H., has been appointed School Medical Officer and Assistant Medical Officer of Health of the City and County of Norwich.

Scott, James, M.B., Ch.B. Edin., has been appointed Senior House Surgeon at the Bolton Infirmary and Dispensary.

Stamp, William Daniel, M.R.C.S., L.R.C.P., L.M. Edin., has been appointed Deputy Medical Officer to the Workhouse and Northern District by the Plympton St. Mary (Devon) Board of Guardians.

Stirk, Percy Herbert, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Inspector of Schools by the Exeter Education Committee.

Wilmot, E. Darwin, M.B., Ch.B. Edin., has been appointed Junior House Surgeon at the Bolton Infirmary and Dispensary.

Wright, O. Kentish, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer to the City of Nottingham Isolation Hospital.

be prescribed by an Order of His Majesty in Council as in this Act provided." He explained that there had been a divergence of opinion on this matter and that another scheme for the registration of nurses was in the field. He argued that it was impossible in the present state of public opinion to have a register of nurses analogous to the Medical and Dental Registers and that there should be penalties on those who not being on the register practised as nurses.

Lord AMPTHILL moved the rejection of the Bill on the ground that its provisions were opposed by the medical and nursing professions. A movement was initiated 20 years ago to obtain State registration of nurses and that had received the assent of the whole medical profession and the great body of nurses. The principle of State registration was approved of by the General Medical Council and the British Medical Association. Lord Balfour's Bill did not provide for a proper standard of training. It did not provide proper representation of the nurses and the medical profession. Its promoters had deliberately refrained from getting the views of the professions concerned. Its object was to put an obstacle in the path of legislation on the principles laid down by a Select Committee of the House of Commons and embodied in a Bill now before that branch of the Legislature.

The Earl of CREWE (speaking after considerable discussion had taken place) said that the question involved was not so simple as might appear. It might be a question of Lord Balfour's Bill or nothing at all. The passage of a Registration Bill was by no means so easy as Lord Ampthill and others might have the House believe. As Lord President he had had two difficulties brought before him. One referred to machinery, and it was difficult to get over. The medical profession on the one hand and the nursing profession on the other insisted that its profession must have the majority on the council which would be formed. That was a difficulty which, so far as he knew, had been by no means solved. There was another difficulty. How were they to provide registration as a guarantee of permanent efficiency? He was heartily in favour of the principle of registration, but he did not see a prospect of any Registration Act being passed within the next few years, not merely on account of Parliamentary difficulties but also on account of the inherent difficulties which he had mentioned. He regarded Lord Balfour's Bill as a step in advance and he could not see that it was an obstacle to registration in the future. He would vote for the second reading.

After further discussion the House divided when there voted:

For the rejection	53
Against	20
Majority for rejection	33

The Bill was accordingly rejected.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 29TH.

The Cost of Medical Inspection of Schools.

Mr. PIKE PEASE asked the President of the Board of Education whether he would lay upon the table an authorised copy of his recent statement as to the costs of medical inspection in elementary schools.—Mr. RUNCIMAN answered: I think the only point of public interest in the statement to which the hon. Member refers was to the effect that at a time when the amalgamation of the existing grants is to be undertaken, the Government could not propose a special grant for medical inspection or any increase in exchequer aid towards the expenses of local education authorities under the Elementary Education Acts in anticipation of the additional sum to be provided in connexion with the Education Bill now before Parliament.

The Law Relating to Coroners.

Sir WILLIAM COLLINS asked the Secretary of State for the Home Department whether, in connexion with the proposed reforms in the law relating to coroners, he would have regard to the representations made to the Lord Chancellor on this subject in March, 1907, by the Medico-Legal Society and by the London County Council.—Mr. H. SAMUEL (for Mr. GLADSTONE) said in reply: My honourable friend will be aware that the subject of death certificates was fully dealt with by a Select Committee of the House of Commons which reported in 1893 and that the proposals to which he refers are substantially covered by the Committee's recommendations. The Secretary of State has under consideration, as has already been announced, the question of appointing a Departmental Committee to inquire into certain points relating to coroner's inquests and so far as the proposed reforms affect coroners they would come within its scope and form part of its investigation.

The Sale and Inspection of Foreign Milk.

Mr. JESSE COLLINGS asked the President of the Local Government Board whether in the Bill he proposed to bring forward with regard to milk-supply he could find means to provide that foreign fresh milk should not be sold in this country unless it was produced under conditions or restrictions as regards sanitation at least equal to those to be imposed on British farmers and cowkeepers.—Mr. BURNS replied: I am afraid I cannot undertake to say beforehand what provisions will be contained in the Bill I propose to introduce with regard to milk-supply.

Mr. JESSE COLLINGS further asked the President of the Local Government Board whether he had seen the statement made at the meeting of the council of the British Dairy Farmers' Association to the effect that 578 hundredweights (6473 gallons) of fresh milk were imported into the United Kingdom during the nine weeks ending Feb. 1st, compared with only 15 hundredweights (168 gallons) during the corresponding period of last year; and, if the statement was correct, whether he would say what steps were being taken to examine the quality and condition of this imported milk.—Mr. BURNS answered: According to the figures which I have obtained from the Commissioners of Customs the quantity of fresh milk imported into the United Kingdom during the nine weeks ended Feb. 1st, 1908, and during those ended Feb. 2nd, 1907, was 499 hundredweights and 94 hundredweights respectively. Samples of imported milk, as of any other milk, may be taken under the Sale of Food and Drugs Acts with a view to their being analysed and dealt with under those Acts. Moreover, samples of imported milk are from time to time taken by the officers of Customs and sent to the Government laboratory under the same Acts. If adulteration is discovered the cases are reported to the Commissioners, who institute legal proceedings where this seems to them desirable. Further, I am arranging to have some samples of imported milk examined as to bacterial contamination and the presence of dirt.

Temperance Drinks and Mortality.

Mr. BOTTOMLEY asked the Secretary of State for the Home Department whether he would grant a return showing the relative mortality of persons engaged in the manufacture of ginger-beer, lemonade, soda-water, and other aerated drinks as compared with those engaged in breweries and public-houses.—Mr. BURNS (who replied) said: I am afraid I could not assent to the proposed return. I have communicated with the Registrar-General with regard to it and I find that his records do not show separately the mortality of the persons engaged in the manufacture of aerated drinks. Consequently great labour and expense will be involved in getting the particulars necessary for arriving at this mortality. I may add that the number of persons engaged in the manufacture of aerated drinks is too small to afford a basis for trustworthy statistics. The total number of males between the ages of 25 and 65 who were so employed in England and Wales, according to the Census of 1901, was only 5587.

THURSDAY, APRIL 30TH.

The Sanitation of Whaling Stations.

Mr. CATHCART WASON asked the Secretary for Scotland what steps the Fishery Board for Scotland was taking to insist that sanitation and cleanliness should be rigorously carried out at the whaling stations and especially if masses of decaying matter would be consumed by fire or chemicals and not allowed to float about the voes, destroying the mussel beds and gravely injuring the homes of the people.—Mr. SINCLAIR replied: The duty of seeing that these stations are kept in a sanitary condition is primarily a matter for the local authority and their officers and in the event of their default it would be the duty of the Local Government Board to interfere. I may add that the by-laws framed by the local authorities for regulating the business carried on at these stations provide for the prevention of offensive material being deposited in, or allowed to escape into, the sea.

Telephone Receivers and Health.

Sir EDWARD SASSOON asked the Postmaster General whether he was aware that no restrictions existed in France as regards the choice of telephone instruments; and, in view of the danger to health involved in the use of receivers insisted upon by the Telephone Company, whether he would take steps to allow the public the same freedom of selection as is allowed in France.—Mr. BUXTON said in reply: Telephone subscribers in France are required to purchase their own telephone instruments and hence their choice is not restricted. The consequent lack of uniformity of apparatus and the great number of cheap and often inefficient instruments in use constitute one of the causes alleged for defects in the French telephone service, and I do not think that a satisfactory telephone service could be carried on in this country under such conditions. I am assured that there is no danger to health arising from the types of telephone officially provided in the United Kingdom.

Scarlet Fever at Tidworth Barracks.

Captain FABER asked the Secretary of State for War whether he could state how many cases of scarlet fever there were at present in the barracks at Tidworth, and whether the cases had been isolated; and, if not, what hospital they were in.—Mr. HALDANE (by written answer) replied: Four cases of scarlet fever had occurred at Tidworth. The cases are being treated at the isolation hospital, Bulford.

MONDAY, MAY 4TH.

National Sleeping Sickness Bureau.

Mr. REES asked the Under Secretary of State for the Colonies whether the Government had decided to establish a national sleeping sickness bureau with headquarters in London; whether a convention between Great Britain and Germany for the prevention of the spread of this malady was contemplated; and whether he could give the House any information on this subject.—Colonel SEELY replied: The answer to the first two portions of my honourable friend's question is in the affirmative. The Secretary of State hopes to be in a position to publish detailed information regarding the bureau shortly.

The Sale of Disinfectants.

Mr. REES asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether the Board had made an order to the effect that disinfectants, weed killers, and the like preparations were drugs within the meaning of the Sale of Food and Drugs Act; and whether it was proposed that such disinfectants, weed killers, &c., if sold by others than registered pharmacists, should have a label attached declaring their efficiency in terms of certain recognised standard tests.—Mr. J. A. PEASE answered (on behalf of Sir E. Strachey): The reply to the first part of the question is in the negative. The conditions under which the articles to which my honourable friend refers should be sold are under consideration by the Joint Committee appointed in connexion with the Poisons and Pharmacy Bill.

The Status of the President of the Local Government Board.

Mr. HAROLD COX asked the Prime Minister whether it was proposed to increase the salaries of the President of the Board of Trade and of the President of the Local Government Board; and, if so, whether this increase would be provided by a reduction of other Ministerial salaries or by increasing the burdens upon the taxpayer; and, in the latter alternative, when he proposed to ask the House to make the necessary grant.—Mr. ASQUITH said in reply: The whole question of the functions and status of these two offices is the subject of inquiry by a committee of the Cabinet, and I am not at present able to say what proposals we shall be in a position to make to Parliament.

The Confinement of Poor Women.

Mr. EUGENE WASON asked the President of the Local Government Board whether he was aware that valuable lives of poor women were sometimes sacrificed in their confinement through the absence of a medical man, owing to their inability to pay the fee for his attendance; and whether the Local Government Board would so far vary its circular of July 29th last to the boards of guardians on the Midwives Act of 1902 as to make the payment of the medical man's fee compulsory by the guardians instead of permissive, as at present.—Mr. BURNS answered: The guardians are authorised by the Poor-law Amendment Act, 1848, to pay for any medical assistance rendered to

Notes, Short Comments, and Answers to Correspondents.

SOME MEDICAL MATTERS ILLUSTRATED UPON ANCIENT EGYPTIAN MONUMENTS.

A MAGNIFICENT Egyptological work entitled "Une Rue de Tombeaux à Saqqarah," just published by M. Jean Capart, conservator of the Egyptian collection in the Brussels Museum, in two of the 107 photographs of sepulchre reliefs presents scenes of much interest to the medical profession. One of these plates, No. 41, gives a clearly carved portrait figure of one of those steatopygous dwarfs whom we know the ancient Egyptians used to employ as dancers, and perhaps also as clowns, to amuse guests at entertainments and who are supposed to be identical with those imported slaves called Dangas whom their hieroglyphical inscriptions tell us they obtained from Southern Nubia.

The peculiar bodily form of these individuals associates them closely with the pygmies, though Professor Naville, a very great authority, thinks that the diminutive pygmies were distinct from the persons with marked steatopygia, considering the latter not so much as a race possessing this malformation but as individual members of this special physical type who occurred sporadically among tribes the majority of whose members were perhaps similar to the ordinary negro. The figure engraved upon the wall of a tomb at Saqqarah, photographed by M. Capart, is certainly intended as that of a native of Central Africa and of negroid affinity, because he is a tribute bearer and as his contribution carries an African ape upon his shoulder. The breast is so prominently shown that the figure may be intended for that of a female, but the abdomen is not so protuberant as in some of these ancient Egyptian figures. The buttocks, however, are so, and all the limbs are extremely large in girth although short, the legs especially being quite disproportionately so.

It is well known that the physical characteristics of this type of mankind were transferred to the figure of the extremely ancient Egyptian deity Bes, or Bess, and from him to the Hellenic Gorgoneion type of Hercules, and thence to Silenus who was connected with Priapus and other phallic deities. The figures of Bes are frequently of an ithyphallic character. Whether all specimens of such varieties of the human type upon Egyptian monuments represent persons who possessed such peculiarities from birth, or sometimes those who subsequently attained them through arrested development, or some disease peculiar to the negroid race, somewhat of the character of elephantiasis, is a matter for discussion. To arrive at a wise decision all monuments of people presenting such characteristics should be published together and any texts relating to them in the Egyptian records should also be edited with them.

The other photograph of a relief which is interesting to the medical profession is that depicting the circumcision of a youth. The operation is shown in two tableaux, probably separated by an interval of some days. In the first the patient is erect, whilst an assistant in his rear holds up his hands so as to cover his eyes, perhaps to prevent his seeing what is being done. The instrument with which the operator—apparently a priest—is about to cut the prepuce has an oval form but is divided into two parts by a central line down the longer axis, so that if with Professor Max Müller, the Egyptologist, we see in the blade a knife of silex it was secured in a handle. The hieroglyphic determinative for the word for circumcision was a semicircle, and M. Capart suggests that this is intended for the fragment of skin removed by the rite. The second act of the operation was evidently less painful, for the young man is not held by the attendant, and indeed places his hand caressingly upon the operator's head, who is furnished with a differently shaped instrument which is not very clearly shown, and says to the youth in the rubrical text: "This is to do you good." What he was doing is perhaps explained in the rest of the inscription which may be translated, "to clean, to shave, to anoint." The Egyptian word is often used in those senses in ancient Egyptian medical works, though Professor Max Müller renders it doctor, but the word for doctor, ordinarily at any rate, is quite differently spelled. Neither have we any text on monuments, or papyri, suggesting that medical men were employed for circumcising. The act belonged perhaps to the priests or embalmers, if not, as in our time in Eastern lands, to the barbers. M. Capart concludes his remarks upon the subject by quoting the signboard of a barber at Assouan to-day which asserts that the shopkeeper is a hair-cutter, "practises circumcision, cures minor venereal complaints, and regenerates the blood." M. Capart's book, which is published by Vromant of Brussels, may be obtained of H. Greuel and Co. of London.

ACUTE DELIRIOUS MANIA AND ACUTE MANIA.

To the Editor of THE LANCET.

SIR,—Are the essential differences between the above complaints known to all medical men? My experience of a recent case leads me to suppose that they are not known as widely as they should be. The best description of acute delirious mania that I know of may be found in "Quain's Dictionary of Medicine" in the article "Mania" by Dr. G. F. Blandford. The opening words of Dr. Blandford's article are: "Acute delirious mania or maniacal delirium—whichever we prefer to call it—is something quite distinct from that ordinarily known as acute mania. The *symptoms are much graver*, the course is briefer and more defined, and *the treatment of the one would be quite inappropriate to the other.*" (The italics are mine.) The essentials of the treatment of acute delirious mania (which may safely be undertaken in many private houses) are the procuring sleep as soon as possible (opium is inadmissible), feeding, and very skilful kindly nursing. It may be remarked in passing how often an ignorant nurse will irritate a mental case by "keeping the patient quiet" as she calls it. Any sudden movement of arm or leg is pounced upon and the bed-clothes are immediately tucked in. If the patient tries to get out of bed he is immediately forced back again. Any sufferer from nervous insomnia who has experienced the relief gained by pacing the room will sympathise with the instinctive desire of a sufferer from acute delirious mania to get up occasionally and move about. It is indeed a peculiarity of the complaint that the patient objects to lie on an ordinary bed, but *will* lie on a mattress on the floor. Again, in the important matter of feeding, a tactful nurse will coax the patient to take food which is otherwise refused. I have no statistics showing whether cases of acute delirious mania are on the increase, but if any medical man who reads this communication is not conversant with the differences which distinguish this disease from ordinary acute mania, he should get up the subject. Treatment suitable for the last-named disease may lead to a fatal issue if applied in a case of acute delirious mania.

I am, Sir, yours faithfully,

April 25th, 1908. EDWARD A. OPIE.

THE NEED FOR MORE MOTOR AMBULANCES.

AT a recent inquest held by Dr. F. J. Waldo at Southwark invidious comparisons were drawn between the steps taken for the provision of mechanically driven ambulances in the City and the want of them often experienced in London outside its limits. The authorities who govern the City were referred to in complimentary terms by the coroner as pioneers in many matters and the particular instance in which their public spirit was praised is one of increasing importance in view of the dangers of our streets and of our industrial life which cannot be said to have diminished in recent years. In the case before the jury the deceased had fallen under the wheels of a lorry in East-street, Walworth-road, and the policeman who wheeled him on a hand ambulance to Guy's Hospital, where he succumbed to his injuries, had taken half an hour in doing so. As in such cases life may sometimes be saved by surgical aid promptly applied, and in the rendering of which every minute is of importance, the subject is one to which coroners may usefully direct the attention of the public.

A COINCIDENCE IN INVENTION.

To the Editor of THE LANCET.

SIR,—As makers of Mr. Seymour Stritch's pessary which called forth Mr. Hughes R. Davies's courteous letter and Mr. Stritch's reply thereto under this heading (published in THE LANCET of March 14th and 28th), will you allow us to briefly explain that there are inadvertences in both?

There is an essential difference between these two instruments. In Mr. Davies's pessary he claims much for its permanent oscillatory movement through 75° to 90°, whereas Mr. Stritch instructed us that subsequent fixation of his uterine support upon its stem was essential, contending that, in the case for which he was seeking support, anything but absolute fixation would render the instrument imperfect as it would allow some measure of prolapse of the womb and perhaps of the bladder also. This necessary fixation is brought about by a mechanism which, as far as we can trace, is original.

Personally we knew of Mr. Davies's pessary, having procured them from time to time from the makers, Messrs. Krohne and Sesemann, and but for Mr. Stritch's express instructions as to fixation we should certainly have suggested to him a trial of Mr. Davies's instrument. The questions of giving fixation, or movement, will, we think, not be without interest, as any suggestion towards helping these troublesome cases is, in our experience, always welcomed by the profession. With Mr. Stritch's sanction we beg you to favour us by publishing this explanation.

We are, Sir, yours faithfully,

April 28th, 1908. DOWN BROS., LTD.

POST-GRADUATE STUDY.

IN answer to our correspondent "Equator" we think that he would find he could do more post-graduate work in surgery in this country than he could on the continent, though possibly the arrangements here are not so convenient as those at continental centres where they make more arrangements for "six-week courses" than is the custom in this country. Our correspondent might apply to the Post-Graduate Association, Examination Hall, Victoria Embankment, London, W.C., which includes a number of general and special hospitals, to the Medical Graduates' College and Polyclinic, 22, Chenies-street, Gower-street, W.C., to the West London Post-Graduate College, West London Hospital, and to the hospitals of the Seamen's Society (address, the Secretary, Seamen's Hospital, Greenwich, S.E.). There are also various post-graduate classes held in different provincial centres such as Birmingham, Liverpool, Manchester, and others. In Scotland,

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANGOR, CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House Surgeon. Salary £80 per annum, with board, washing, and lodging.

BENENDEN SANATORIUM.—Medical Superintendent. Salary £250 per annum, with board, lodging, and attendance.

BIRMINGHAM, EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon. Salary at rate of £70 per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, &c.

BRISTOL GENERAL HOSPITAL.—Assistant House Physician. Salary £60, with board, residence, &c.

CARDIFF INFIRMARY.—Senior Resident Medical Officer. Salary £120 per annum, with board, washing, and apartments.

CARLOW DISTRICT ASYLUM.—Resident Medical Superintendent. Salary £350 per annum and allowances.

CARMARTHENSHIRE, WEST WALES SANATORIUM, Alltymynydd.—Medical Superintendent. Salary £200 per annum, with board and residence.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Physician to Out-patients. Also Clinical Assistant.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Two Assistant Physicians.

CLINICAL RESEARCH ASSOCIATION.—Assistant Director of the Laboratory. Salary £250 per annum.

CROYDON BOROUGH HOSPITAL FOR INFECTIOUS DISEASES.—Senior Resident Medical Officer and Bacteroiolgist. Salary £160 per annum, with board, lodging, and washing.

DERBYSHIRE ROYAL INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, &c. House Physician. Salary £100 per annum, with apartments, board, &c.

DRIFFIELD UNION.—Medical Officer and Public Vaccinator. Salary £48 per annum, and fees.

DUMFRIES, CRICHTON ROYAL INSTITUTION.—Two Resident Clinical Physicians. Salary at rate of 50 guineas per annum, with board, rooms, and laundry.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £40 per annum, with board and lodging.

EDINBURGH, CITY OF.—Medical Officer of Health. Salary not less than £800 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging, and washing.

FERMANAGH COUNTY HOSPITAL, Enniskillen.—House Surgeon.

GLOSSOP, BOROUGH OF, EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £80 per annum.

GREAT NORTHERN CENTRAL HOSPITAL.—Clinical Assistant in the Ear, Throat, and Nose Department.

GREENWICH UNION INFIRMARY AND WORKHOUSE.—Junior Assistant Medical Officer. Salary £100 per annum, with apartments, rations, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100, with board, residence, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

HUDDERSFIELD LOCAL EDUCATION AUTHORITY.—School Medical Officer. Salary £300 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £80 per annum, with board, residence, &c.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and attendance.

LEEDS GENERAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing. Also Resident Ophthalmic Officer. Salary £100 per annum, with board, residence, and washing.

LEEDS TUBERCULOSIS ASSOCIATION SANATORIUM, Gateforth, near Selby.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

LEICESTER INFIRMARY.—House Physician. Salary at rate of £100 per annum, with board, lodging, and washing.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon, non-resident, for six months. Salary £50 per annum.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Two House Surgeons as Senior and Junior, for six months. Salary of former at rate of £100 per annum, and of latter at rate of £80 per annum

NEW HOSPITAL FOR WOMEN.—House Physician. Also Resident Medical Officer (females).

NORTHAMPTON GENERAL HOSPITAL.—Two Honorary Anæsthetists.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing. Also Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

NOTTINGHAM CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, &c.

NOTTINGHAM GENERAL HOSPITAL.—Locum Tenens for three and a half months. Salary £45, with board, lodging, and washing.

ORKNEY, PAPA WESTRAY PARISH COUNCIL.—Medical Officer and Public Vaccinator (female). Salary £85 per annum, with fees.

PLAISTOW FEVER HOSPITAL, London, E.—Second Assistant Medical Officer, unmarried, for six months. Salary at rate of £100 per annum, with rooms and board.

ROYAL EAR HOSPITAL, Dean-street, Soho.—House Surgeon. Salary £40 per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Clinical Assistant in the X Ray Department, Assistant to the Clinical Pathologist, and Assistant Anæsthetists (females).

ST. MARY'S HOSPITAL, London, W.—Assistant Surgeon for Diseases of the Ear, Nose, and Throat.

SHEFFIELD UNION HOSPITAL, Fir Vale.—Resident Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, &c.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £60 per annum, with board and apartments.

SOCIETY OF APOTHECARIES OF LONDON.—Examiners in Medicine and Surgery.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £70 per annum, with board, apartments, and laundry.

STONE, NEAR AYLESBURY, BUCKS COUNTY LUNATIC ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board and apartments.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum. Also House Physician. Salary £75 per annum.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

WAKEFIELD, CLAYTON HOSPITAL.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

WANDSWORTH UNION INFIRMARY, St. John's Hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried, for six months. Salary at rate of £120 per annum, with board, lodging, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith, W.—House Physician for six months. Board, lodging, and laundry.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

WORCESTER, CITY OF.—Assistant Medical Officer. Salary of £200 per annum.

YORKSHIRE, NORTH RIDING EDUCATION COMMITTEE.—Medical Inspector. Salary £250 per annum and expenses.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Ongar, in the county of Essex; and at Queensbury, in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

DICKSON.—On April 25th, at Preston View, Dyke-road-drive, Brighton, the wife of William L. Dickson, M.R.C.S., L.R.C.P., of a son.

KENDREW.—On April 29th, at Lissenden Mansions, Lissenden Gardens, London, N.W., the wife of A. J. Kendrew, L.R.C.P., M.R.C.S., of a daughter.

OSBORN.—On May 5th, at Ennismore Lodge, Park Avenue, Dover, the wife of Francis Arthur Osborn, L.R.C.P. Lond., M.R.C.S. Eng., of a daughter.

REDMAYNE.—On April 30th, at Warrior-square, St. Leonards-on-Sea, the wife of Thomas Redmayne, F.R.C.S., of a daughter.

WATCH.—On April 29th, 1908, at Richmond-road, Pontnewydd, near Newport, Mon., the wife of Norman B. Watch, L.R.C.P. & S.E., L.F.P.S.G., of a daughter.

WATSON.—On May 2nd, at Oriel House, Leigh-on-Sea, Essex, the wife of W. Douglas Watson, M.R.C S. Eng., L.R.C.P. Lond., of a son.

WILLIAMSON.—On April 27th, at Leicester, the wife of Lieutenant-Colonel J. G. Williamson, R.A.M.C. (retired), of a daughter.

MARRIAGES.

DODWELL—ROBERTSON.—On April 30th, at All Saints', Upper Norwood, Philip Rashleigh Dodwell, M.D., to Jessie, widow of Lieutenant-Colonel F. W. Robertson, Royal Sussex Regiment.

FITZWILLIAMS—FILLEY.—On April 29th, at St. Columba's, Pont-street, Duncan Campbell Lloyd Fitzwilliams, M.D., Ch.M., F.R.C.S. Edin. & Eng., to Mary Elizabeth Filley, eldest daughter of the late Oliver B. Filley and Mrs. Filley, of Winyates, Sherborne, Massts , U.S.A.

MORE—DRYLAND.—On April 29th, at the parish church, Kettering, by the Rev. P. M. Smythe, Rector, assisted by the Rev. J. Arthur M. Morley, Vicar of Rothwell, and the Rev. Ambrose Lethbridge, Chaplain of Guy's Hospital, London, John More, eldest son of the late Dr. James More, Rothwell, to Mabel Winter, second daughter of the late Dr. John Winter Dryland, Kettering.

THOMAS—PRICE.—On April 29th, at St. Peter's Church, Carmarthen, by the Lord Bishop of Swansea, assisted by the Rev. D. T. Alban, B.A., Frank G. Thomas, B.A., M.B. Cantab., to Florence M. S. Price, M.B., Ch.B., elder daughter of Dr. and Mrs. Price, Carmarthen.

DEATH.

LAVER.—At 3, Church-street N., Colchester, on May 4th, 1908, Constance Mary (May) Laver, wife of Philip Laver, M.R.C.S., &c., and only daughter of Bv.-Col. Cecil Conor, late commanding 1st Duke of Wellington's Regiment.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY AND FRIDAY.—3.30 P.M., Lecture:—Dr. G. Stewart: Syphilis of the Nervous System.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), West London (2.30 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University Colleg (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cros (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (16th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 7th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 1	30·18	W.	0·09	121	74	52	57	61	Cloudy
" 2	30 08	S.E.	...	100	73	57	58	59	Hazy
" 3	30 01	E.	...	68	52	50	50	50	Raining
" 4	29 77	S.E.	0·33	97	62	50	50	50	Overcast
" 5	29·56	S.W.	...	82	58	50	51	54	Raining
" 6	29 39	S.	0·12	89	60	53	52	54	Cloudy
" 7	29 85	W.	0·01	105	60	46	48	53	Fine

During the week marked copies of the following newspapers have been received:—*Sanitary Record, Standard, Yorkshire Daily Post, Newcastle Chronicle, Liverpool Courier, Hereford Times, Yorkshire Daily Observer, Nottingham Press, Wimbledon Gazette, Wimbledon Boro' News, Broad Arrow, Glasgow News, Yorkshire Evening News, Manchester Chronicle, Reading Mercury and Oxford Gazette, Literary Digest (New York), &c.*

Edinburgh and Glasgow have elaborate post-graduate courses. The post-graduate courses at various continental centres such as Paris, Berlin, Vienna, Milan, and Budapest were described in volume ii. of THE LANCET of 1903, and in THE LANCET of Sept. 21st, 1907, a correspondent wrote to us saying how much he had been impresssed by the post-graduate course at Hamburg. Two courses are held at the hospitals yearly, the one generally in March and the other generally in August.

PLOMBIÈRES AND COLITIS.

To the Editor of THE LANCET.

SIR,—I should be grateful if any of your readers would give me information as to the "colitis cure" at Plombières and the cost of living, &c., at that place during the season.

I am, Sir, yours faithfully,

April 30th, 1908. ENQUIRER.

DELAYED SPEECH.

A MEDICAL man writes: "I have had brought to my notice the case of *an infant of two years and a quarter old who manifests no desire to speak. The child is quite intelligent,* not deaf, well-grown, and good looking. I should be obliged for any information or for reference to any literature bearing on the subject."

RAILWAY MEN AND SAFETY APPLIANCES.

A CORRESPONDENT calls our attention to the delay in the introduction of automatic couplings upon British railways, and generally to the subject of unnecessary accidents happening to railway servants owing to lack of mechanical appliances to minimise the risks inherent to their employment. He mentions that on the continent delegates representing various State and private railways meet annually at Berne with a view to standardising the equipment of their rolling-stock and to the obtaining of safety for those employed upon their lines, and he reminds us that Mr. Lloyd George, who appointed in 1906 a Railway Safety Appliance Committee, now leaves the carrying out of steps which he has initiated to his successor, Mr. Winston Churchill. The matter is, no doubt, one of great importance both to the men who have ample means of making known through their organisations any opinions as to which they are unanimous and to their employers who have to consider the financial and other aspects of all changes proposed.

◆

Dr. C. Ormerod.—The treatment in question is the usual quack formula: no medical opinion upon its utility can be forthcoming as long as its constitution remains a secret. Correspondence in our columns shows that the claims made for the treatment are unsubstantiated, as might have been expected.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Stephen Paget, H. F. Waterhouse): at 5.30 P.M.

Papers:

Mr. J. Crawford Renton: Sciatica and its Surgical Treatment.

Mr. F. C. Wallis and Dr. W. Ironside Bruce: The Treatment of *Ulcerative Proctitis by Zinc Kataphoresis.*

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, W. J. Gow): at 7.45 P.M.

Paper:

Dr. R. H. Paramore: *The Supports of the Female Pelvic* Viscera.

N.B.—This paper will not be read but an abstract will be given and a discussion will take place in which leading anatomists and gynæcologists have already promised to take part.

Copies of this paper are now ready and can be obtained from the Secretaries, 20, Hanover-square.

Specimens:

Dr. Nepean Longridge: Visceral Hæmorrhages in New-born Infants.

Dr. Herbert Williamson: Womb-stone (sent by Dr. Preston Maxwell, China).

Mr. J. Bland-Sutton: (1) Two Examples of the Encapsulation of Sterile Fluid in connexion with the Fallopian Tubes and the Ovary; (2) Sarcoma of the Uterus.

Mr. J. D. Malcolm: A Malignant Ovarian Tumour and Part of a Malignant Sigmoid Flexure removed by Operation.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

ELECTRO-THERAPEUTICAL SECTION.—The next meeting will take place on May 22nd in the Rooms of the Royal Philosophical Society, Glasgow. Members who wish to attend and who desire to avail themselves of local hospitality should communicate with Dr. Reginald Morton, honorary secretary, in order that the necessary arrangements may be made in good time.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., General Meeting. 8.30 P.M., Mr. D'Arcy Power: Recent Advances in the Surgical Treatment of Syphilis.

***UNITED SERVICES MEDICAL SOCIETY,* Royal Army Medical College, Millbank, S.W.**

THURSDAY.—8.30 P.M., Lieut.-Col. A. Duncan, I.M.S. (retired): On the Effects of Heat in the Tropics and their Treatment.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover-square, W.

WEDNESDAY.—8.30 P.M., Adjourned Discussion on Dr. Prout's paper on the Rôle of Filaria in the Production of Disease. Dr. J. P. Maxwell (Amoy): The Use of Quinine during Pregnancy, Labour, and the Puerperium.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

WEDNESDAY.—8 P.M., Mr. C. Beadle: The Underground Water Supplies of the Thames Basin.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. W. Fox: Clinique (Skin). 5.15 P.M., Lecture:—Dr. J. E. Squire: Hæmoptysis, its Significance and Treatment.

TUESDAY.—4 P.M., Dr. W. Ewart: Clinique (Medical). 5.15 P.M., Lecture:—Mr. G. F. Still: Infantile Marasmus.

WEDNESDAY.—4 P.M., Mr. P. Daniel: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. W. H. Clayton-Greene: Abdominal Injuries.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. O. Hawthorne: The Diagnosis of Functional Nervous Disease.

FRIDAY.—4 P.M., Dr. W. J. Horne: Clinique (Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Diseases of the Pharynx.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Pardoe: Stricture of the Urethra.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Beddard: Medicine.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Eustachian Obstruction and its Results.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Clinical Pathology as an Aid to Diagnosis.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children, 2 P.M., Medical and Surgical Clinics X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Medical Out-patient (Dr. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. Whiting).

TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Clinics:—Surgical (Mr. Edmunds); Gynæcological (Dr. Giles).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. Whipham); Skin (Dr. Meachen); Eye (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Clinics:—Medical Out-patient (Dr. Whiting); Surgical (Mr. Carson); X Rays. 3 P.M., Medical In-patient (Dr. Chappel).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Clinics:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Mr. L. A. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. Special Lecture:—4 P.M., Mr. Lawrence: Otitis Media.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. Carless: The Treatment of Spinal Caries.

WEDNESDAY.—2.15 P.M., Dr. R. Wells: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Pirie: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical 12 noon, Ear and Throat.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—*Dr. R. Bradford: Ascites.*

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

The Hunterian Lectures

ON

THE CONNECTIVE TISSUE IN CARCINOMA AND IN CERTAIN INFLAMMATORY STATES THAT PRECEDE ITS ONSET.

Delivered before the Royal College of Surgeons of England on Feb. 17th, 19th, and 21st, 1908,

BY VICTOR BONNEY, M.S., M.D., B.SC. LOND., F.R.C.S. ENG., M.R.C.P. LOND.,

HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND; EMDEN RESEARCH SCHOLAR, MIDDLESEX HOSPITAL CANCER INVESTIGATION DEPARTMENT; LECTURER ON PRACTICAL MIDWIFERY, MIDDLESEX HOSPITAL; AND SURGEON TO OUT-PATIENTS AT THE CHELSEA HOSPITAL FOR WOMEN.

LECTURE I.

Delivered on Feb. 17th.

MR. PRESIDENT AND GENTLEMEN,—The degree of importance attaching to the changes manifested by the connective tissue in relation with carcinoma has been variously estimated by different observers. Waldeyer[1] laid great stress on them and distinguished two phases—namely, the "introducing" changes which he believed play an important rôle in the etiology of the growth and the "accompanying" change which determined its anatomical structure. In regard to the first of these he remarked that evidence of old connective tissue change is obtainable at the sites of most carcinomata. It is of the nature of an interstitial induration often preceding the malignant growth by many years. There is an increased vascularisation leading to proliferation of the epithelium, the cells of which subsequently become broken up into groups by invading wander-cells from the connective tissue. This epithelial isolation he regarded as the first step in the development of carcinoma. He thus stated all the essentials of the theory subsequently promulgated by Ribbert, and his conception of the importance of the connective tissue changes is best expressed in his own words: "I do declare now most decidedly that if any kind of tumours have as regards their etiology and mode of development any relation to inflammatory processes 'tis the carcinomata."

Ribbert[2] examining early cases of carcinoma of the skin noted that in all of them previous changes in the connective tissue could be distinguished. These consisted of a new tissue due to cell-proliferation which developed between the elastica and the epithelium, and the site of the carcinoma to be was therefore elevated. The proliferated connective tissue cells subsequently invaded the tips of the interpapillar processes, and separated the individual cells, which detached from the main mass acquired an independent power of proliferation, whereby they in their turn invaded the altered connective tissue. Subsequent investigation of carcinomata in other situations appeared to him to confirm these observations. He particularly pointed out that the elongated interepithelial or interglandular papillæ seen at the edge of a carcinoma were in their earliest inception not due solely to epithelial proliferation, since the apices of the elongated epithelial processes or glands bore a normal relation to the cutis vera or submucosa. The carcinomatous surface area according to him enlarges by successive conversion of non-malignant epithelium until the entire precarcinomatous area is used up. After this growth continues by the continued proliferation of the malignant cells already formed, but there is no new conversion. Ribbert's views have been supported by Borrmann[3] who has made an exhaustive study of carcinomata of the skin. In every case examined by him changes in the connective tissue had preceeded the onset of the growth. On the other hand he considers that an actual invasion of the epithelial cells by the connective tissue is rare, and believes that the germinal areas of a carcinoma are to be regarded as cell-complexes isolated in embryonic life. Ribbert in his latest publication has partly adopted the views of Borrmann, that is to say he believes that the initial process as far as the epithelium is concerned may be in some cases due to a developmental lesion, but whether it be due to this or to the changes wrought by inflammation the foundations of cancerous development are only laid when there has formed a new layer of tissue under the epithelium akin to granulation tissue, by means of which the physiological inter-relationship and inter-dependence that exist between the epithelium and its subjacent connective tissues are lost.

In contrast to the views of Waldeyer and Ribbert, von Hansemann[4] holds that the primary change in carcinoma is an anaplasia of the epithelial cell itself characterised by a new type of mitotic division, an independency of growth, and a power of limitless proliferation. He states that connective tissue cell proliferation does not necessarily occur round a carcinoma though it is usually present, and he noted that the stroma of metastases was often quite different to that of the primary growth. He attributes this to the nature of the tissue in which the growth is taking place and the varying pathological processes to which the stroma is liable. According to him the connective tissue changes are entirely secondary to the epithelial infiltration. His views have been supported by Hauser[5] and Heidemann.[6]

Max Borst[7] says that in early carcinomata changes of an inflammatory nature are always present. A real proliferation of the connective tissues is much less frequent. Whilst regarding these changes as largely reactive, he admits that they are also in some cases the special cause of the new growth. It is true, he says, that the interepithelial papillæ are elongated by proliferation, but the epithelial processes are more than correspondingly elongated and they must therefore be proliferating also. True isolation of epithelial cells such as described by Ribbert is a rare occurrence. The primary stroma is either composed of the pre-existing cells and tissues or is newly formed, as in the papillary and villous carcinomata. The stroma of metastases varies according to the tissue in which the metastasis is growing; on the whole it resembles that of the primary growth. Borst, therefore, appears to hold views intermediate between those of Waldeyer and Ribbert on the one hand and von Hansemann on the other—i.e., he allots to both epithelium and connective tissue a primary share in the process. He states that the cell infiltration and proliferation at the edge of a carcinoma is harmful and that it prepares the way for its further extension.

Fischer[8] endeavoured to produce in the subepithelial tissue of a rabbit's ear changes in the connective tissue comparable to those described by Ribbert in human carcinoma. After trying many substances he found that the repeated injection of a solution of the stain Scharlach R in olive oil produced not only an increase in the number of connective-tissue cells but also led to great epithelial hypertrophy terminating in definite downgrowth. The epithelial cells exhibited abnormal mitoses. According to him the connective tissue changes were not the cause of the epithelial proliferation but were coincident with it, and he attributed it to the effect of an "attraxin" contained in the Scharlach oil. The process, however, stopped short of malignancy and he pointed out that some additional factor was required to produce a carcinoma. His paper is of great value and marks a distinct advance in the experimental investigation of the causes of carcinoma.

Wakelin-Barrett[9] has confirmed Fischer's work. He believes, however, that the subepithelial tissue changes are secondary to the epithelial ingrowth, since they did not occur when the Scharlach oil was injected into areas of connective tissue not adjacent to epithelium. He endeavoured to produce artificial metastases of the thickened epithelium by implanting grafts into various situations, but was unsuccessful.

Bashford and Murray[10] have shown that the stroma of mouse cancer is a product of the tissues of the host and is not derived from the implanted tissue. Their results are of importance as applied to the study of secondary nodules,

---

[1] Die Entwicklung der Carcinome, Virchow's Archiv, vol. cxli., p. 470, and vol. lv., p. 67.

[2] Beiträge zur Histogenese des Carcinomes, Virchow's Archiv, vol. cxxxv., p. 433–469, and vol. cxli., pp. 153–177.

[3] Die Entstehung und das Wachsthum des Haut-carcinomes, Zeitschrift für Krebsforschung, vol. vii., pp. 1–170.

[4] Das Krebstroma und die Grawitz'sche Theorie der Schlummerzellen, Virchow's Archiv, vol. cxxxiii., pp. 147–165.

[5] Virchow's Archiv, vols. cxxxvii. and cxxxviii.

[6] Ibid., vol. cxxix., pp. 77–108.

[7] Die Lehre von den Geschwülsten, vol. ii., 1903.

[8] Münchener Medicinische Wochenschrift, No. 42, 1906.

[9] Proceedings of the Royal Society, 1907.

[10] Report of the Imperial Cancer Research Laboratories.

Communications, Letters, &c., have been received from—

A.—Ardath Tobacco Co., Lond.; Addenbrooke's Hospital, Cambridge, Secretary of; Messrs. H. Abraham and Sons, Southampton; Aerators, Lond., Secretary of; Messrs. Allen and Hanburys, Lond.; Argylls. Lond.; A. E. G.; *American Medicine*, New York, Manager of.

B.—Mr. Arthur E. Barker, Lond.; Mr. T. A. Brockelbank, Lond.; Mr. Victor Bonney, Lond.; Mr. H. Butterfield, Northampton; Birmingham, &c., Ear and Throat Hospital, Secretary of; B. E.; Bethel Hospital, Norwich, Clerk to the; Blackburn and East Lancashire Infirmary, Secretary of; Messrs. Burroughs, Wellcome, and Co., Lond.; *Boston Medical and Surgical Journal*, Boston, U.S.A., Manager of; British Medical Benevolent Fund, Lond., Hon. Secretary of; Buxton House, Earl's Colne, Proprietress of; Mr. C. Birchall, Liverpool; Messrs. Bailey and Son, Lond.

C.—Mr. T. S. Cotterell, Bath; Messrs. Carter, Lond.; C. E. B.; Clayton House, Wakefield, Secretary of; C. W.; *The Chemist and Druggist*, Lond., Editor of; Dr. P. B. Considine, Linthorpe; Messrs. Cassell and Co., Lond.; Dr. W. H. Cheetham, Guiseley; *The Christian Globe*, Lond., Editor of; Mr. Henry Curtis, Lond.; Messrs. Clarke, Son, and Platt, Lond.; Messrs. Samson Clark and Co., Lond.

D.—Dr. Andrew Duncan, Lond.; Messrs. J. Defries and Son, Lond.; Mr. E. Darke, Lond.; Mr. G. T. De Fraine, Aylesbury; Douglas Park Medical Journal Club, Chicago, Secretary of; Driffield Union, Clerk to the; Derbyshire Royal Infirmary, Derby, Secretary of; Mr. C. E. Denning, Epping; Mr. Alexander Duke, Lond.; Lord Denman, Lond.; Dental Manufacturing Co., Lond.

E.—Messrs. W. Evans and Co., Hereford; E. M.; Dr. E. Emrys-Roberts, Liverpool; Erfurt Chemical Manufacturing Co., Manager of; Mr. F. Engelmann, Leipzig.

F.—Mr. G. Fock, Leipzig; Messrs. Fussell and Co., Lond.; Mr. T. R. Freeman, Monkton Combe.

G.—Mr. J. Garman, Ashford; Staff-Surgeon W. H. O. Garde, R.N., Queenstown; Glossop Education Committee, Secretary of; Messrs. Gould and Portmans, Lond.; Miss Graham, Torquay; G. W.

H.—Mr. W. E. Hempson, Lond.; Mr. E. F. Harrison, Lond.; Mr. Otto Holst, Eastbourne; Messrs. Hampton and Sons, Lond.; Dr. Donald Hood, Lond.; Dr. J. Hay, Liverpool.

I.—Islington Dispensary, Hon. Secretary of;

J.—Dr. O. Jennings, Paris; J. E.; Messrs. Jones Bros., Bristol; Mr. R. F. Jowers, Hove.

K.—Dr. C. F. Knight, Edinburgh; Messrs. S. Kutnow and Co., Lond.; K. L. S.; Messrs. Knight, Frank, and Rutley, Lond.; Mr. H. M. Kendall, Dawlish; Messrs. R. A. Knight and Co., Lond.

L.—Leicester Infirmary, Secretary of; Messrs. Le Valery and Co., Lond.; Leeds General Infirmary, Manager of; Messrs. Luzac and Co., Lond.; Messrs Leslies, Lond.; Leeds and West Riding Medico-Chirurgical Society, Senior Secretary of.

M.—Mr. R. McQueen, Lond.; Dr. G. Myles, Limerick; M. R.; Messrs. J. McQueen and Co., Leicester; Maltine Manufacturing Co., Lond.; Dr. L. Martins, Oporto; Manchester Corporation Tramways, General Manager of; Dr. W. L. Mackenzie, Edinburgh; Mr. D. McDonald, Enniscorthy; Dr. G. S. Middleton, Glasgow; Manchester Medical Agency, Secretary of; M.

N.—Mr. P. C. Nandi, Calcutta; Mr. Lionel E. C. Norbury, Lond.; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Odol Chemical Co., Lond.; Mr. F. A. Osborne, Dover.

P.—Mr. A. P. Piggot, Carisbrooke; Pahang, State Surgeon of; Mr. H. D. M. Page, Southampton; *The Prescriber*, Edinburgh, Manager of; Messrs. C. Pool and Co., Lond.; Messrs. Peacock and Hadley, Lond.

R.—Dr. William Robinson, Mayville, Durban; Royal Mail Steam Packet Co., Lond.; Royal College of Surgeons in Ireland, Dublin, Registrar of; Messrs. Reynolds and Branson, Leeds; Royal Devon and Exeter Hospital, Secretary of; Rockefeller Institute, New York, U.S.A.; Royal Society of Medicine, Lond., Editor of; Remington Typewriter Co., Lond.

S.—Dr. Alex. M. Sharp, Lond.; Mr. C. A. Stidston, Hertford; Dr. J. Gordon Sharp, Leeds; Dr. Scanes-Spicer, Lond.; Salford Royal Hospital, Secretary of; *Shrewsbury Chronicle*, Manager of; Stepney Spare Motor Wheel, Llanelly; Mr. Hugh Stott, Lewes; Dr. Sömme, Mesnalien; Star Engineering Co., Wolverhampton; Scholastic, Clerical, &c., Association, Lond.; South Devon and East Cornwall Hospital, Plymouth, Secretary of; Dr. J. F. Sutherland, Edinburgh.

T.—Mr. A. H. Tubby, Lond.; Professor Thomson, Cambridge; Mr. A. R. Tweedie, Nottingham; Dr. G. L. Thornton, Exmouth; Mr. Edmund Townshend, Birmingham.

U.—Union Reklame, Lucerne.

V.—Virginia Etna Lithia Springs Co., Lond., Manager of; Vancouver Medical Association, Secretary of.

W.—Dr. Tucker Wise, Montreux; Messrs. W. and F. Walker, Liverpool; West Bromwich District Hospital, Secretary of; Messrs. J. Wright and Co., Bristol; Messrs. Wiley and Sons, New York; Messrs. W. Wood and Co., New York; Dr. R. T. Williamson, Manchester; Miss Wylie, Broadstairs; Sir W. Whitla, M.D., Belfast; Wolverhampton, &c., Eye Infirmary, Secretary of; Wolverhampton, &c., General Hospital, House Governor of; Worcester Corporation, Clerk to the.

Y.—Dr. Eugene S. Yonge, Manchester; Mr. James W. Young, Durban.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Appleton and Co.; Lond.; A. B., Chelsea; A. B., Aberystwyth Corporation, Accountant to the.

B.—Mr. E. Blatchley, Lond.; Dr. J. Brennan, Feakle; Messrs. Battle and Co., Neuilly, Paris; Mr. K. E. Barber, Wanstead; Messrs. Battley and Watts, Lond.; Buxton Urban District Council, Clerk to the; Messrs. J. Beal and Son, Brighton; Dr. Innes W. Brebner, Johannesburg; Dr. A. Brebaut, Guernsey; Birmingham General Hospital, House Governor of; Messrs. Barton, Hayward, and Ford, Lond.; Messrs. J. Booty and Son, Lond.; Barnwood House Hospital, near Gloucester, Superintendent of; Messrs. Blundell and Rigby, Lond.

C.—Mr. A. F. Comyn, St. Albans; Mr. J. C. Callan, Kingscourt; Dr. W. M. Crofton, Sutton Bridge; C., South Tottenham; Carnarvonshire, &c., Infirmary, Bangor, Secretary of; Messrs. Cornish Bros., Birmingham; Cardiff Infirmary, Secretary of; Cumberland Infirmary, Carlisle, Secretary of; Cotswold Sanatorium, near Stroud, Secretary of; Messrs. Cadbury Bros., Bournville.

D.—Mr. E. Bowen Davies, Exmouth; Dr. G. B. S. Darter, Victoria West, South Africa; Dumfries and Galloway Royal Infirmary, Secretary of; Dadson Nursing Homes, Lond.; Dr. W. T. Dougal, Pittenweem.

E.—Mr. J. Evans, St. Tudy; Dr. J. W. H. Eyre, Lond.; E. E. C.

F.—Mr. F. T. Fagge, Rhos-on-Sea; Messrs. J. F. Fry and Sons, Bristol; Fellows Medical Manufacturing Co., New York.

G.—Mr. J. W. Griffith, King's Heath; Mr. E. Gooch, Lond.; Messrs. Gale and Co., Lond.; Mr. G. Gill, Kingston, Jamaica; Messrs. Guyot-Guenin and Son, Lond.; G. W.; G. E. A.; Mr. D. K. D. Guzdur, Bombay; Messrs. R. W. Greeff and Co., Lond.

H.—Mr. T. Hawksley, Lond.; Messrs. Hooper and Co., Lond.; Dr. A. J. Hutton, Lugar; Hospital for Diseases of Throat, Lond., Dean of; Dr. G. H. Hume, Newcastle-on-Tyne; Mrs. Hitch, St. Leonards-on-Sea; Dr. J. H. Holland, Washington, U.S.A.; Mr. C. Higgens, Lond.; Mr. J. Hourston, Papa Westray; H. F. W.

I.—Dr. A. C. Inman, Lond.; Lieutenant-Colonel D. L. Irvine, R.A.M.C., Farnham.

J.—Dr. R. P. Jones, Prudhoe-on-Tyne; J. F. R.; J. H.

K.—Kettering and District General Hospital, Matron of; Kreochyle Co., Lond., Secretary of; Dr. Barty King, Lond.

L.—Dr. R. J. Lytle, Southsea; Mr. W. A. Liston, Govan; Mr. A. Leckie, Lond.; Mr. P. Laver, Colchester.

M.—Mr. A. H. More, Rothwell; Mr. H. Morris, Lond.; Male and Female Nurses' Co-operation, Lond.; Mr. Matthews, Bristol; Dr. G. Metcalfe, Skelmersdale; Messrs. Morriss and Birch, Lond.; Mr. E. C. Macdonald, Leith; Messrs. Maple and Co., Lond.; Macclesfield General Infirmary, Secretary of; Mr. E. Merck, Lond.; Mr. R. Mosse, Berlin; Dr. D. M. MacRae, Philippolis, South Africa; Mr. W. T. P. Meade-King, Minehead; Dr. J. MacDonald, South Queensferry; Messrs. Mabbett and Edge, Lond.; Mr. J. May, Lond.; M. G.; Dr. T. H. Middlebro', Owen Sound.

N.—Mr. S. Neave, Ingatestone; National Association for Tuberculosis, Lond., Secretary of; Northamptonshire County Council, Northampton, Clerk to the; Norfolk County Asylum, Thorpe, Clerk to the.

O.—Dr. C. M. O'Brien, Dublin; Mr. C. A. P. Osburne, Old Catton.

P.—Dr. A. R. Parsons, Dublin; Dr. J. Pelloquin, Draguignan; Dr. R. G. Price, Carmarthen; Penang General Hospital, Senior Medical Officer of; Rev. C. R. Powys, Rofford.

R.—Mr. J. W. Roberts, Knayton; Royal Albert Hospital, Devonport, Secretary of; Messrs. Robinson and Sons, Chesterfield; Royal Cornwall Infirmary, Truro, Secretary of; Misses Ringwood and Inge, Haslemere; Miss Rawlins, Bray; R. E.; Hon. Gladys Rice, Llandilo.

S.—Dr. E. Stewart, East Grinstead; Sheffield University, Registrar of; Dr. S; Messrs. Saunders (W. B.) Co., Lond.; Messrs. Smith and Son, Lond.; St. Andrew's Hospital, Northampton, Secretary of; Société Bordeaux-Nectar, Manager of; Messrs. G. Street and Co., Lond.; Mr. K. Sorger, Lond.

T.—Dr. W. H. M. Telling, Leeds; Dr. J. H. Tonking, Camborne; T. S.; Mr. J. Thin, Edinburgh.

V.—Mr. J. Vare, Edinburgh; Dr. F. P. Vale, Washington, U.S.A.

W.—Dr. W. H. Wright, Derby; Mr. N. B. Watch, Pontnewydd; Dr. W. E. Walker, Guilsborough; Mr. S. M. H. Walls, Houghton-le-Spring; W. L.; Dr. W. H. Witt, Nashville, U.S.A.; Westminster General Dispensary, Lond., Secretary of; W. C. H.; Wye House, Buxton, Medical Superintendent of; West Wales Sanatorium, Alltymynydd, Hon. Secretary of; Mr. W. F. A. Walker, Dinas Mawddwy; Mr. J. H. White, Workington; Mr. J. Ward, Lond.; Messrs. H. Wilson and Son, Lond.

Y.—York County Hospital, Secretary of.

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.	
One Year	£1 12 6
Six Months	0 16 3
Three Months	0 8 2

TO THE COLONIES AND ABROAD.	
One Year	£1 14 8
Six Months	0 17 4
Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0 4 6
	Every additional Line	0 0 6

Situations wanted: First 30 words, 2*s.* 6*d.*; per additional 8 words, 6*d.*

Quarter Page, £1 10*s.* Half a Page, £2 15*s.* An Entire Page, £5 5*s.*

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to insure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

Agent for the Advertisement Department in France—J. ASTIER, 31, Rue Bapst, Asnières, Paris.

still they are seen in large and unmixed aggregations often at a very considerable distance from the growth. In the early specimens of carcinoma that I have examined they are already present in large quantities. They proliferate in rows, producing rifts in the previously homogeneous fibrous tissue which in time completely disappears. They appear to divide by amitosis chiefly, bi-nucleate cells being commonly seen, but mitoses are sometimes observed.

Origin.—The origin of these cells is very obscure. They are practically not present in normal tissues. There is no evidence that they are derived from lymphocytes. Indeed, if a lymphatic gland the seat of carcinomatous invasion be examined, it is noted that the plasma cells lie in the stroma of the gland towards and in its capsule and quite distinct from the lymphocytes. With regard to a possible origin from endothelial cells, it is difficult to believe that endothelial cells become converted into plasma cells in view of the very distinctive character of areas of endothelial proliferation. It is true that collections of plasma cells are frequently met with around small vessels and capillaries. But on close examination it will be found that an endothelial lining and two or three layers of endothelial cells intervene between them and the lumen of the vessel. Occasionally lymphatic channels may be seen whose walls appear to consist entirely of plasma cells, but it must be remembered that the finest ramifications of the lymphatic system do not possess an endothelial lining. Large aggregations of plasma cells frequently surround well-formed vessels, and Whitfield[11] has suggested that they may spring from the endothelium of the perivascular lymphatics. The theory of Grawitz, which states that in resting conditions of the connective tissue certain cells may become invisible, to become again visible when an appropriate stimulus causes them to proliferate, is most applicable to the origin of plasma cells. My own observations incline me to derive their origin from certain elongated small nuclei visible in resting connective tissue, and which differ from the nuclei of ordinary fixed connective-tissue cells in being smaller and more chromatic. If the periphery of an area of plasma-cell proliferation stained by my method be closely examined certain elongated streaks stained by the pyronin will be seen, and all gradations between them and fully formed plasma cells may be traced. Heidemann, who supports Grawitz' "slumber-cell" theory, has noted the same appearances in sections stained by saffranin. I originally used saffranin in my staining method and entirely corroborate him.

Fate.—I find no evidence that plasma cells undergo active destruction by the ingrowing epithelial cells. They retain their position in the stroma longer than the lymphocytes. The delicate processes uniting them to other plasma cells would prevent regression before the advancing growth. On the other hand, there are frequent appearances suggesting that these cells can become elongated to produce some of the cells of fibrous tissue. In the process of this elongation the cytoplasm loses its distinctive staining properties and the nucleus becomes hyaline and reticular. Thus it is probable that they, together with the fixed connective-tissue cells, constitute the framework of the stroma on which a collagenous deposit subsequently occurs. In the oldest portions of the stroma they, with all the other cells there, appear to undergo pressure atrophy.

Endothelial Cells.

The part played by endothelial cells in carcinoma appears to be small if one limits the term "endothelial" to those cells definitely lining blood and lymph channels. Endothelial proliferations are seen occasionally around small blood-vessels. There is no evidence that they metamorphose into any other type of cell, the cell mass remaining distinctively hyaline. (Fig. 1.)

Leucocytes.

Polynuclear leucocytes are very slightly in evidence in a carcinomatous area under uncomplicated conditions. In sections stained by Leishman's method a considerable number of them are seen within the hæmic capillaries, but diapedesis is unusual. In ulcerating growths, however, a considerable number may be seen outside the vessels, especially where the epithelium is degenerate, as in a cell nest. Here they may be aggregated in considerable quantity between the flattened epithelial cells. All these leucocytes exhibit fine eosinophile granules in their cytoplasm.

The Fixed Connective Tissue Cells.

On the assumptions (1) that normal connective tissue consists of a meshwork of branching fibres surrounding a number of irregular spaces in relation to which are seen hyaline nuclei, round or elongated in shape according to circumstances; and (2) that in inflammatory conditions this meshwork becomes largely obscured by the number of additional cells brought to or produced in the part, I believe that the fixed connective tissue cells play a relatively unimportant part in the tissue changes associated with carcinoma. (Fig. 1.) Certain of them probably give rise to plasma cells, as has been shown. For the rest, a certain slight increase in their number occurs and mitosis is observed occasionally. Their increase is most obvious in the papillomatous types of carcinoma, where an undoubted elevation of the connective tissue is present. It is to be noted, however, that even in this type of growth the vast bulk of the warty mass is due to enormous epithelial proliferation, whilst the interepithelial papillæ though abnormally elongated are also abnormally narrowed. They are seen best in the older parts of the stroma, for here they are not obscured by the cloud of plasma cells and lymphocytes which crowd the growing edge. They possess fine processes (fibroglia fibres) which anastomose and make up the characteristic retiform structure of the stroma. In the oldest parts of the stroma the nuclei appear to be undergoing a pressure atrophy so that fibres only are found here.

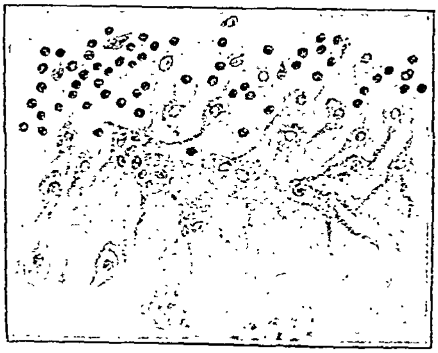
Mast Cells.

Mast cells are frequently to be observed in the neighbourhood of a carcinoma. On the other hand, they are present in normal tissues—as, for example, the breast, where large numbers of them can be found. I have not been able to satisfy myself that they are necessarily increased in number in a carcinomatous area. (Fig. 1.)

Giant Cells.

I have not been able to find giant cells of connective-tissue origin in the area of a carcinoma, though they have been described by Becher and others. Becher[12] stated that they were "foreign body cells" produced by the presence of degenerate or dead epithelium and that their presence indicated a tendency to natural cure. They must be rare, since I have not once seen them in the course of an examination of a very large number of specimens. Their absence in carcinoma is very striking, seeing the frequency with which they are met in association with necroses, foreign bodies, and experimental implantations—conditions in which a protective destruction of the offending substance is in progress. In experimental implantations of human carcinoma into rabbits that I have carried out these giant cells are very striking objects in the cell reaction which in a short time circumscribes the implanted tissue. They lie against and in the implanted tissue and are evidently destroying it. (Fig. 3.)

FIG. 3.



Edge of experimental implantation of human carcinoma into the peritoneal cavity of a rabbit showing histioclasis by giant cells.

The White Fibrous Tissue.

A study of white fibrous tissue, founded upon its formation in scars and its disintegration in inflammatory states, shows that it consists of a groundwork of fibrils to which the since mouse carcinoma grafts are to be regarded as experimental metastases.

---

[11] Journal of Dermatology, January, 1904.

[12] Virchow's Archiv, vol. clvi.

The literature bearing on the connective tissue changes in connexion with carcinoma is so large that this very brief *résumé* of the work and views of some of the principal investigators must suffice.

I shall now pass to my own work which is founded upon material from a large number of carcinomatous growths of various situations and from certain inflammatory states which commonly precede the onset of carcinoma. With this have been compared the normal histology of the tissues from the same parts together with the histological features characterising inflammatory processes not directly concerned in the production of carcinoma. I have specially studied the histology of very early carcinoma whenever such specimens have been available. In the course of this investigation I have made use of a large number of differential tissue stains, but I have particularly relied on three of them—namely, (1) Pappenheim's plasma cell stain; (2) Weigert's elastic tissue stain; and (3) my own triple stain, an account of which originally appeared in Vol. VI. of the Archives of the Middlesex Hospital, but which I subsequently modified in accordance with the description published at the last meeting of the Pathological Society of Great Britain and Ireland.

A GENERAL SURVEY OF THE CONNECTIVE TISSUE CHANGES IN PRIMARY CARCINOMATA.

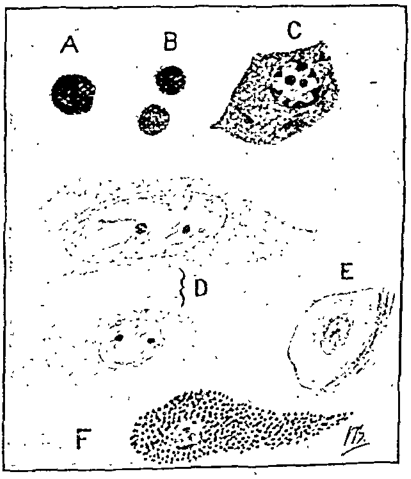
The Cellular Elements.

If the cloud of connective tissue cells surrounding an early primary carcinoma (the so-called zone of small round cell infiltration) be studied by the aid of differential stains it will be found that it contains a large number of cell types. These are as follows:—

The Lymphocytes.

Situation.—Lymphocytes are a conspicuous feature of the cell proliferation surrounding an early carcinoma. (Fig. 1.) They are especially aggregated at the tips of the epithelial processes, where they may be seen intercalating themselves between the individual epithelial cells. At the points of maximum aggregation, especially in squamous cell carcinoma, they invade the epithelial processes to such an extent that the epithelial edge becomes quite broken up and the demarcation between epithelial and connective tissue elements is obscured. As one passes into the older portions of the growth they become less numerous until in the oldest parts they may be absent altogether.

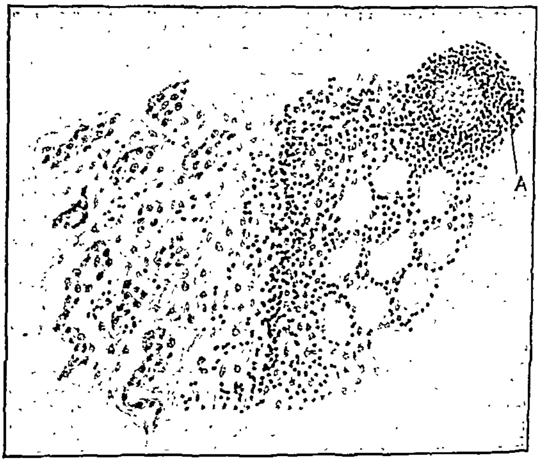
FIG. 1.



Principal cell types seen in the connective tissue in carcinoma. A, Lymphocyte. B, Lymphocytes exhibiting chromatic network. C, Plasma cell. D, Fixed tissue cells. E, Endothelial cell. F, Mast cell.

Origin.—The origin of these lymphocytal aggregations is very difficult to decide. As will be shown later their first appearance precedes that of the growth itself. Division either by mitosis or amitosis is never to be observed in them. They lie free within the spaces of the tissue network and I have been unable to find definite transitional forms between them and endothelial cells on the one hand or plasma cells on the other. If not formed by the tissues on the spot these cells must have been borne thither by the blood stream or have found their way along lymphatics. As regards the first, a certain number of lymphocytes are seen in the hæmic capillaries, but not in the quantity one would expect if their origin were solely from this source. They are much more numerously seen in the perivascular lymphatics, and it is by this route that most of them probably reach the site of the growth. It is also certain that the lymph glands in the vicinity of a carcinoma are in a state of enlargement and activity and that they contain big germinal areas containing many mitoses. Further, new lymph nodes appear in the tissues surrounding a carcinoma. Ribbert has laid stress on these and I have encountered them many times. That they are true nodes and not mere aggregations is proved by their exhibiting well-formed germinal areas with mitoses. (Fig. 2.)

FIG. 2.



Edge of a carcinoma of the breast showing at A a new lymph node with a well-marked germinal area.

Fate.—I find no evidence that these cells undergo destruction or metamorphosis during their contact with the epithelial cells. Certainly they take no part in the formation of the stroma of the growth. Contrasting their large numbers at the periphery of the growth with their sparsity in the older portion, it is strongly suggested that they are being pushed back by the advancing epithelial cells. If the lymphocytes retire from the tissue meshwork before the advancing epithelial cells it is possible that some of them are translated along the lymphatics to the next gland of the series and thus in part occasion the enlargement without epithelial invasion, which is seen in the glands at the periphery of a carcinomatous area.

It is noteworthy that in spite of the marked lymphocytosis in the area of the growth Pryce-Jones has shown that there is no increase in the mononuclear content of the blood at large until a very late stage of the disease and then only very slightly. Amongst these lymphocytes are seen some which when stained by my method exhibit a peculiar appearance. They are rather smaller than usual and present a fine black-coloured network within the substance of the nucleus. I am at present unable to state what is the significance of this but I have seen them in other inflammatory conditions. (Fig. 1.)

Plasma cells.

These cells are the most striking objects seen in the connective tissue in the neighbourhood of a carcinomatous growth. They present a large cell body, round or oval in form (unless subject to compression) with a round eccentric nucleus containing from five to eight peripherally placed masses of chromatin and one or two centrally placed nucleoli and they possess fine processes which unite them to other plasma cells. (Fig. 1.)

Situation.—They are rarely found in immediate contact with the epithelial cells and they never intercalate themselves between them, the zone immediately surrounding the epithelial cells being as a rule occupied by lymphocytes and endothelial cells only. The plasma cells lie beyond this zone and are mixed at first with lymphocytes, but further outside large as to suggest that some of it is newly formed. Moreover, it is granular and structureless, as Fischer pointed out. (Fig. 5.)

To sum up, then, elastic tissue disappears in all areas of connective tissue cell proliferation whether this be associated with a definite inflammatory state or with the connective tissue changes that are going on in a carcinomatous area. This disappearance is permanent—i.e., there is no regeneration of the elastic fibres when the cell proliferation has departed and fibrosis has supervened, which statement applies equally to the older parts of the stroma of primary carcinoma and the fibrotic stage of chronic granulomatous inflammation. In certain conditions, however, of chronic irritation which fall short of producing cell proliferation in the connective tissues, yellow elastic tissue may be increased by the deposition of a granular elastin around the old fibres. This is seen in some simple irritative states as well as in isolated areas in the stroma of carcinoma.

The Goulstonian Lectures

ON

THE INFLUENCE OF PREGNANCY UPON CERTAIN MEDICAL DISEASES, AND OF CERTAIN MEDICAL DISEASES UPON PREGNANCY.

Delivered before the Royal College of Physicians of London on March 17th, 19th, and 24th, 1908,

By HERBERT FRENCH, M.A., M.D. OXON., F.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO GUY'S HOSPITAL.

LECTURE III.[1]

Delivered on March 24th.

PREGNANCY IN RELATION TO CERTAIN FEVERS.

MR. PRESIDENT AND GENTLEMEN,—The next variety of cases that deserves consideration is that in which the mother, being at the time pregnant, develops one of the commoner fevers. Generally speaking, the pregnant state seems to confer some degree of immunity, the reverse being true of the puerperium. Scarlet fever, for example, shows less tendency to attack a pregnant woman than other persons equally exposed to the infection; whereas a woman who has been recently delivered of a child is particularly prone to take the disease if it is in the vicinity. Nevertheless, pregnancy confers no absolute immunity to the specific fevers, and should the patient contract one the question will arise as to what is likely to be the result both as regards the mother and as regards the child.

TYPHOID FEVER AND PREGNANCY.

Typhoid fever, for instance, may develop during pregnancy. There are a fair number of papers upon the subject, references to several of which have been given by Mr. H. T. Hicks and myself in THE LANCET.[2] The illness may begin at any period of the pregnancy and, like typhoid fever in England generally, it is less liable to develop in the summer months than it is in the autumn and winter.

The course of the disease is precisely similar to its course in others persons. Pregnancy does not seem to have any particular influence on the severity of the illness nor upon the prognosis as regards the mother. The death-rate will doubtless vary in different years; in our own cases it was 14 per cent., in Vinay's 17 per cent., and in Duyrot's 16 per cent., figures which do not differ widely from those given by the Metropolitan Asylums Board for all cases. The effect of enteric fever upon the pregnancy is, on the contrary, bad. In the majority of the cases abortion or premature labour takes place. This was the result in 85 per cent. of our cases, in 66 per cent. of Vinay's, in 63 per cent. of Martinet's, and in 65 per cent. of Penot's. The reasons for this high mortality amongst the children will be discussed below. Meanwhile it is right to mention, however, that it is quite possible in a minority of cases for the mother to pass through a typical and fairly severe attack of typhoid fever and yet for the pregnancy to continue to term and for the child to be born living and well. This was the case in one of our patients who developed typhoid fever in the fifth month of her pregnancy, recovered in due course, and was delivered at term of a healthy child who lived to grow up. There is no period of the fever at which a premature ending of the pregnancy seems more likely to occur than at another. The time at which it takes place depends rather upon the month of the pregnancy than upon the day of the fever. If the patient is already eight months pregnant, for example, delivery may occur during the first week or ten days after the onset of the fever; but if the pregnancy has not passed the fifth or sixth month it may continue into the third or fourth week of the fever and yet end prematurely. The mother seems to suffer remarkably little from the labour. Of course, she may already be in an extremely bad way from her typhoid fever, just as any other person might be, and then the prognosis is grave. It might have been expected that even if she had not hitherto been more than ordinarily ill from her enterica, the additional strain of labour must necessarily have made her considerably worse; this, however, is not the case as a rule. The delivery is most often easy and the patient experiences considerable relief. The uterus involutes just as if there were no maternal illness and the fever usually runs just the same course as if the incident had not occurred.

Transplacental Transmission of Toxins, Agglutinins, and Bacteria.

Several points of considerable scientific, if not clinical, interest arise in connexion with the child. The following questions might be asked. If the child were born dead during the course of typhoid fever in the mother, would it be likely that typhoid bacilli might be found in the fœtal tissues; in other words, can typhoid bacilli be transmitted directly from the mother to the fœtus? If the child's blood serum were tested by Widal's test, would it be likely to give a positive reaction? If so, does the fœtus produce its own agglutinins, or does it receive them ready formed from the mother? If the fœtus can and does become infected with typhoid bacilli, does it develop ulceration in the Peyer's patches of its intestine; in other words, can the macroscopic condition of the fœtal bowel be relied upon as a certain indication as to whether the fœtus is infected with typhoid organisms or not? If the fœtus becomes infected with typhoid bacilli, does this happen soon after the mother falls ill? and if not, how long after the mother's infection is that of the fœtus likely to occur? Would the child, if it lived, have a natural immunity to typhoid fever, supposing it had remained in utero until after the mother had recovered from her fever? If the fœtus is not affected in any of the above ways, or even if it is, are there any other lesions that it is likely to have suffered as the result of the mother's illness—lesions which may show their effects if the child lives and grows up?

It is only possible to give limited answers to some of these questions, and no answer at all to others; but it should some day be possible to give full answers if every case as it came under observation were fully investigated. The difficulty is that one does not always realise at the time the precise points to which attention should be particularly directed and the cases are sufficiently few and far between to make it difficult for a single individual to investigate any large number of them. Here, therefore, is another subject upon which a carefully directed collective inquiry would be good. The great point about typhoid fever in this respect is that it affords a natural experiment in human beings upon the placental transmission both of chemical substances—the agglutinins,—and of bacteria—the typhoid bacilli,—simultaneously.

Before entering upon the facts known in regard to the placental transmission of agglutinins and bacteria in typhoid fever itself it will be well to summarise shortly what is known about placental transmission generally. It seems clear, in the first place, that transmission might conceivably take place from mother to fœtus in one other way than through the placenta; it might occur viâ the liquor amnii. Ferrari[3] has shown this to be possible, materials being able to pass from the maternal lymphatics into the amniotic fluid, and thence, by being swallowed, into the alimentary term "fibroglia" has been well applied. These fibroglia fibres are prolongations of the fixed connective tissue cells which anastomosing with one another form a fine meshwork. Deposited around or on these is a collagenous matrix on which the density of the white fibrous tissue appears to depend. Thus in old scars it is present in large quantity, obscuring the cell elements and fibroglia fibres, whilst in all conditions of tissue rarefaction it disappears and the fibroglia fibres and fixed cells are unmasked. Such rarefaction due to disappearance of collagen occurs in all conditions of connective tissue cell aggregation. At the edge of a primary carcinomatous area this rarefaction of the tissues by the dense aggregations of lymphocytes and plasma cells is seen in progress (Fig. 4). The plasma cells in particular by their proliferation produce rifts in the previously homogeneous collagenous matrix, and this is occurring in many areas at a considerable distance from the growth. At the margin itself the fibrous elements become quite obscured by the cloud of lymphocytes and plasma cells. As one passes into the more central portions the cell aggregations (particularly the lymphocytes) disappear and unmask the decollagenised fibroglia fibres which with the hyaline fixed tissue cells and the elongated and atrophying plasma cells make up the stroma of the growth. The general effect is a characteristically loose and hyaline connective tissue staining ill with protoplasmic or nuclear stains and consisting, I believe, of altered plasma cells and the original fibroglia fibres and cells of the part from which all the collagenous material has been removed by the preceding cell proliferation. At a later stage still, and particularly in the slower growing forms of carcinoma, collagen is again deposited around the fibroglia fibres and the stroma becomes dense and, in appearance, almost acellular.

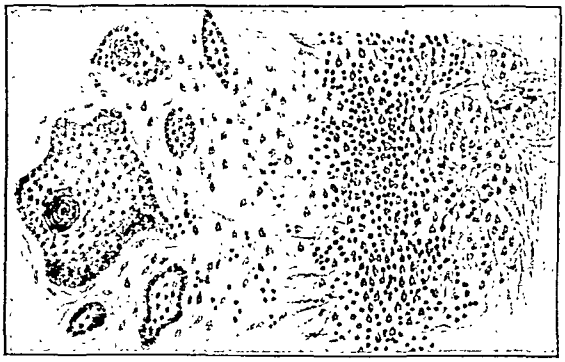
---

[1] Lectures I. and II. were published in THE LANCET of May 2nd (p. 1257) and 9th (p. 1321), 1908, respectively.

[2] H. T. Hicks and Herbert French: Typhoid Fever and Pregnancy, with Special Reference to Fœtal Infection, THE LANCET, June 2nd, 1906, p. 1491, q.v. for other references.

[3] Ferrari: Lo Sperimentale, Sez. Biologia, fasc. I., p. 62, 1895.

FIG. 4.



Edge of a squamous cell carcinoma showing transformation of the connective tissue at the zone of the tissue cell proliferation.

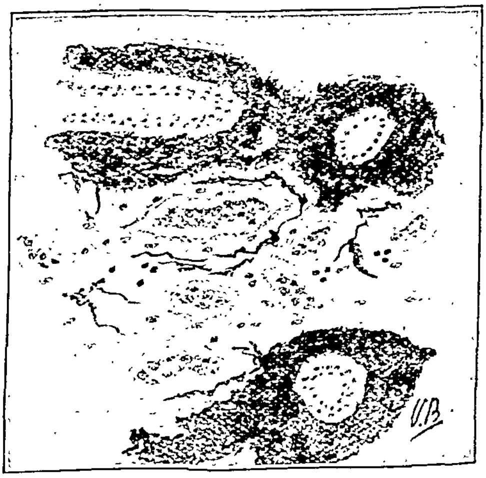
The Yellow Elastic Tissue.

Melnikow-Raswedenkow,[13] Abel,[14] and Goldmann[15] found that there occurred a progressive disappearance of elastic tissue in the stroma of carcinoma, and Wrench[16] in the laboratories of the Middlesex Hospital Cancer Investigation Department came to a similar conclusion. On the other hand, Fischer[17] found in certain areas of carcinoma of the breast large aggregations of a granular looking elastin whilst it was absent in other parts. He considered that these aggregations were due to a new formation. New formation of elastic tissue in malignant growths has also been reported by von Hansemann,[18] Lubarsch,[19] Polak-Daniels,[20] and Meinel. Tsutomu Inouye,[21] investigating 20 cases of gastric carcinoma, found that whilst generally speaking there was a disappearance of these fibres, yet here and there accumulations of them could be found which he regarded as of new formation. Tores[22] has described a new formation in fibrous tumours, whilst Melnikow-Raswedenkow and Williams proved it in certain inflammatory states (e.g., cirrhosis of the liver). These observations were confirmed by Wrench.

My own investigations show that in all areas of connective tissue cell proliferation there is a coincident disappearance of the elastic fibres. Thus they disappear early in tuberculous and syphilitic inflammation, in other chronic granulomatous processes and in the leukoplakias, nor does regeneration occur in the stage of scarring or fibrosis. Elastic tissue also disappears in certain conditions not associated with a marked proliferation of the tissue cells. Thus it is absent from the scars of healthy wounds, although as I shall show later there is little cell proliferation to be observed in the course of this process. Further, it tends to disappear in areas which have been frequently exposed to the action of x rays and it may undergo a simple pressure atrophy under the thickened epidermis of a corn. Lastly, a disappearance of it occurs in senile skin. Excluding the four last conditions, however, its absence from an area in which it normally occurs, unassociated with a present tissue cell proliferation, is a certain sign of old inflammatory change. In certain chronic irritative states, which, however, presumably fall short of producing a cell proliferation, its quantity may be actually increased. Thus under the skin of a lip which presented a hypertrophy of the epithelium, the result of chronic irritation, an abnormal quantity of granular looking elastin was found and I have noted similar appearances in the neighbourhood of several rodent ulcers.

In the area of primary carcinoma there has already occurred as I shall presently show a complete disappearance of yellow elastic tissue as a result of a pre-existent chronic inflammatory process. It is into this de-elasticised area that the first epithelial down-growths occur. Outside this area of previous disappearance a further destruction occurs by the plasma cell and lymphocytal proliferation which is going on beyond the limits of the epithelial cells. A few of the elastic fibres in this zone, however, escape destruction, and subsequently, as the growth progresses, come to lie in the stroma where they appear to be subject to a pressure atrophy and finally disappear, so that the oldest parts of the stroma contain no elastic tissue at all.

FIG. 5.



Carcinoma of the breast showing enormous aggregations of elastin. (Weigert's stain.)

It is, however, to be noted that in occasional specimens of carcinoma large aggregations of elastic tissue are present in isolated spots within the stroma. This is best seen in certain carcinomata of the breast, where they appear to surround the pre-existent ducts and large vessels which have become included in the growth but not destroyed by it. Though a certain amount of this elastic tissue may be due to condensation of previously existing fibres by the pressure of the epithelial masses, yet the quantity of elastin present is so from mothers who had suffered from, and survived, typhoid fever during the pregnancy. If even only one or two such children subsequently developed typhoid fever it would make it probable that none of them had an immunity, acquired either actively or passively in utero. It is a point that is not of any great clinical importance, because the number of living persons concerned is very small; but from a scientific point of view it would be of great interest to obtain an answer to the question, seeing that it bears upon the very complex subject of immunity and constitutes a natural experiment in man. It may, perhaps, be mentioned that the presence or absence of a positive Widal's reaction in the fœtus is by no means synonymous with the presence or absence of immunity to typhoid fever. The agglutinins upon which the Widal's test depends disappear rapidly from the blood after typhoid fever in the great majority of cases, as Dr. M. G. Louisson and myself[15] have shown. Acquired immunity to the disease does not disappear in this way. Consequently the fact that Widal's test is negative in a child born of a mother who has had typhoid fever during her pregnancy does not prove that the child is not immune to that disease. The longer before the child's birth the mother recovered from her illness the less likely would the infant's blood be to give a positive reaction, if one may argue by analogy with adults in whom the rapidity with which Widal's test, having been positive during the fever, becomes negative again a few weeks or months later is often remarkable.

---

[13] Ziegler's Beiträge, vol. xxvi., 1898.

[14] Archiv für Gynäkologie, vol. lxiv., 1901.

[15] Transactions of the Royal Society of Medicine, vol. i., No. 1.

[16] Fourth report of the Middlesex Hospital Cancer Research Laboratories.

[17] Virchow's Archiv, vol. clxxvi., p. 180.

[18] Verhandlungen der Deutschen Pathologischen Gesellschaft, 1899–1900.

[19] Ibid., 1900.

[20] Virchow's Archiv, vol. cv., 1901, and Münchener Medicinische Wochenschrift, 1902.

[21] Virchow's Archiv, vol. clxix.

[22] Ziegler's Beiträge, vol. xxvii., 1899.

Next comes the question as to whether or not the child, if it survives in spite of the mother having had typhoid fever during the pregnancy, is likely to suffer in other ways as it grows up. There is a considerable amount of evidence to show that this is very likely to be so, though it would be too much to say that it must be so. Professor Osler[16] has recorded a case in which the mother died from typhoid fever and the unborn child was found to have a large recent blood clot in its brain. Had the infant lived it must have exhibited the effects of this lesion which was apparently due to the mother's illness. Dr. Ballantyne[17] quotes numerous observers who have found "important pathological changes in the fœtal viscera, more particularly in the liver, thyroid gland, brain, and suprarenal capsules, which have a far-reaching effect upon the post-natal life of the offspring. ...... They consist in degenerative and sclerotic alterations unaccompanied by the presence of microbes, but productive of a slackening of body metabolism and lowering of body temperature, along with a tendency to develop broncho-pneumonia, gastro-enteritis, and infantile atrophy. The same results are produced by other infectious maternal conditions also and they are probably due to the transmission of toxic principles through the placenta. ...... It has been thought that typhoid fever of the mother in pregnancy may be the cause of intellectual peculiarities in her offspring developed many years afterwards."

The Question of advising Artificial Delivery.

Before leaving this subject there is one matter of great practical importance that arises from the question of fœtal infection and that is, At what period of the maternal typhoid fever does the fœtus become infected with typhoid bacilli? It is held by some bacteriologists that these bacilli are present in the maternal circulation from an early date in the illness, though it has by no means been established that this is an invariable rule. One would like to know precisely when typhoid bacilli are most numerous in the mother's blood, because that would be the time when the fœtus would be exposed to the greatest chance of bacterial infection. In our own case[18] the mother died upon the twenty-fourth day and the fœtus was not infected. In the cases recorded by others[19] of recent years—that is to say, since the methods of distinguishing the typhoid bacillus from the bacillus coli communis have been rendered more accurate than they formerly were—the examinations were made in five cases when the mother's illness was in its second or third week, and in none of these did the fœtal tissues yield typhoid bacilli, whereas in the three cases when the examination was made during the fourth or a later week of the mother's illness the organism was present in the child each time. This number of patients is too small to generalise from but the results seem to indicate that before the end of the third week of the mother's illness the child is much less likely to have become infected than it is in the fourth or a later week. It seems probable that the prognosis as regards the immediate and subsequent life of the child will be much better if the infant could be born before this bacterial infection occurs. If therefore the pregnancy has reached the time when the child is viable, and if for any reason it is much desired that a living child should be born, it would seem that the best advice for the physician to give would be that of obtaining obstetric assistance for bringing about delivery before the mother's illness had reached the end of the third week. This advice would not be necessary if the mother's interests alone were to be considered, for in her case the prognosis is not materially affected by allowing the pregnancy to take its own course; but if the child's life is a material consideration it would appear to be very risky to allow it to remain in utero beyond three weeks from the beginning of the typhoid fever. With each week of the fever the chances that the child will become infected with typhoid bacilli rapidly increase.

Other Specific Fevers in the Unborn Child.

The discussion upon typhoid fever in conjunction with pregnancy has been somewhat dwelt upon, because, owing to the comparative ease with which both typhoid bacilli and agglutinins can be looked for, the cases afford an admirable field for investigation; they constitute natural experiments in man upon the trans-placental transmission of disease upon which there is scope for much more work in future cases. Much might be said about the other specific fevers also but there is only room for a few words about each here.[20]

Small-pox has long been known to be transmissible from the mother to the fœtus in utero. It by no means follows, of course, that the child has the eruption in every case in which the mother suffers from the disease during her pregnancy. Sometimes the fœtus has died before the exanthem could appear upon it. Sometimes the child will be born quite healthy and catch the complaint at birth—a post-natal, and not an antenatal, infection. Sometimes when the mother has had variola early in her pregnancy the latter has continued to term and the child, though exhibiting no external evidence of having had small-pox, has been noted to possess a natural immunity to the disease in after life. In quite a number of cases, however, the child has been born with the typical eruption of small-pox upon it. The degree to which the infant is affected is very variable, bearing no direct relationship, apparently, to the severity of the disease in the mother. The stage of the eruption in the child may be almost identical with that in the mother, varying from vesicle to scar according to the length of time the pregnancy has continued after the mother was taken ill. It is noteworthy that the eruption goes through a pustular stage in the unborn child just as it does in an adult; and, as a rule, the size of each lesion is greater than that seen in grown-up people. On the other hand, the duration of the eruption on the skin of the child may apparently be much longer than it is in adults, for in Laurens's case,[21] quoted by Dr. Ballantyne, the mother had small-pox early in her pregnancy, and two and a half months later the premature infant was born still covered with the eruption. Dr. Allan Warner[22] records an interesting case of the same kind. The mother was taken ill with small-pox upon Jan. 8th when four months pregnant. The eruption appeared upon her on Jan. 11th; by the 23rd the crusts were falling off, and by Feb. 3rd she was quite free from all scabs. Pregnancy continued until the 15th when miscarriage occurred; twin female children were delivered, both being well covered with a typical small-pox eruption in the pustular stage.

Another very remarkable fact is that the father may have small-pox at the time of conception, the mother may show no sign of the disease, and yet her child may have it in utero—a point which seems directly analogous with some cases of congenital syphilis. This opens up a wide field for discussion but one upon which it is not possible to enter here.

Three further points may be briefly noticed. First, there seems to be no stage of fœtal life, from the third month onwards, at which the child may not be born with the eruption upon it. Secondly, even if there is no eruption upon the child's skin it is very possible that owing to the route of canal of the child. It is generally held, however, that the only path of fœtal infection that is at all common is that across the placenta. Dr. J. W. Ballantyne[4] points out how important this fact is in connexion with the site of the subsequent lesions, for the substances so transmitted reach the child by the blood-stream, and therefore if bacteria are conveyed to the unborn child they pass first the placenta, then the umbilical vein, then either the liver or the ductus venosus, then the heart, and so are distributed all over its body. The condition is thus one of general blood infection from the onset. The lesions may consequently be different in the child from what they are in the mother. As an illustration of this Bidone[5] records a case in which erysipelas in the mother gave rise to fungating endocarditis in the child.

---

[15] Louisson and French: The Duration of Positive Widal's Reaction after Recovery from Typhoid Fever, Transactions of the Clinical Society of London, 1907, and Guy's Hospital Reports, vol. lxi., 1907.

[16] W. Osler: Teratologia, 1895.

[17] Ballantyne: loc. cit., p. 201.

[18] Loc. cit.

[19] Loc. cit.

[20] Vide Ballantyne: Loc. cit.

[21] Laurens: Bulletin de la Société Anatomique de Paris, vol. xlii., 1868.

[22] Warner: THE LANCET, July 11th, 1903, p. 95.

In the second place, it is clear that the placenta allows chemical substances to pass across it from the maternal to the fœtal circulation; the nourishment of the child is thus conveyed.

In the third place, it is evident that a converse transmission of chemical substances takes place across the placenta from fœtus to mother; the child gets rid of the effete products of its metabolism in this way. It has been shown that quite abnormal substances may pass from fœtus to mother in a similar manner. Charrin[6] injected diphtheria toxin into animal fœtuses in utero, the mother dying from the toxæmia. It has been suggested that toxins elaborated by the fœtus and absorbed by the mother may be at the root of the herpes gestationis, the nephritis, and the tetany of pregnancy.

In the fourth place, even as regards chemical substances, the placenta can apparently exert some power of selection; that is to say, whereas some elements and compounds pass from the mother to the fœtus with comparative ease, others do so with much less readiness. Porak[7] performed a considerable number of experiments upon guinea-pigs in this connexion; and he found, for example, that whereas copper and lead were easily transmitted to the fœtal tissues arsenic passed across with greater difficulty, whilst mercury, though it reached the placenta and accumulated there, apparently passed no further. This feature of the placental functions has been termed its "barrier action."

Fifthly, this "barrier action" of the placenta, decidedly limited even in health, becomes still less marked when the mother is ill. Charrin and Duclert[8] showed that the presence in the maternal circulation of certain chemical substances or of various microbial toxins renders the placenta permeable to things which otherwise pass across it with difficulty; in other words, the placental barrier often breaks down when the mother is unwell, and things which would not be allowed to pass across to the fœtus if the mother were healthy are then able to do so.

Sixthly, it has been fully established that bacteria can pass from the mother to the fœtus *viâ* the placenta. There is a good deal of evidence to show that the placenta itself acts to some extent like a filter and that it may contain an abundance of bacteria before any have escaped past it to reach the fœtus. Consequently the fœtus seldom contains bacteria in anything like the numerical proportion that the mother's tissues do. Nevertheless, Küss[9] has shown in animals that tubercle bacilli may actually reach the fœtus from the mother *viâ* the placenta; and other observers[10] have demonstrated the same fact in regard to the bacilli of anthrax and of fowl cholera, the pneumococcus, the streptococcus, the meningococcus, the spirillum Obermeieri, and the bacillus of glanders.

It must be remembered, of course, that the experiments that have been made upon the subject have been upon animals; that the placentæ of different animals, varying as they do in size and thickness, vary also in the extent to which each exerts a barrier action against this substance or that; and that, therefore, the facts that have been found to be true of animals are not necessarily true of man. However, although the details may vary it is unlikely that the general principles taught by animal experiments do not apply to man. These principles are: (1) that abnormal chemical substances and toxins are able to pass from mother to child *viâ* the placenta; (2) that the placenta when healthy exerts some degree of "barrier action," allowing some things to pass less readily than others; (3) that this "barrier action" is not only imperfect but becomes less effective when the mother is ill; and (4) that not only substances in solution but also actual bacteria, even those of the size of anthrax bacilli, can reach the child from the mother.

To return now to the discussion of typhoid fever and the way in which the child is affected when the mother has the disease. It has been found repeatedly that the typhoid bacilli can cross the placenta, reach the child, and be recovered from the infant's tissues immediately after birth. There are, it is true, many cases in which the bacilli have been looked for and not found. This was so in the case investigated by Mr. Hicks and myself,[11] but negative evidence in many cases counts for little as compared with positive evidence in even only a few. Typhoid bacilli have been recovered from the tissues of the human fœtus by such observers as Fordyce, Freund and Levi, Etienne, Bolton, Eberth, Hildebrandt, Giglio, Durk, and Ernst.[12]

The fœtal blood-stream has been examined by Widal's test in a few cases, and although it has sometimes given no reaction in cases recorded by Fordyce, Chambrelent, Griffiths, Mosso and Danic, Bolton, and Kirton[13] it gave a positive Widal's test.

No answer can as yet be given to the question whether the fœtus produces its own agglutinins or receives them ready formed from the mother, but it would be a most interesting point to investigate further, especially if it could be shown that the fœtus did produce agglutinins for itself. There are at least two ways in which light could be thrown upon the question, neither of them very difficult provided they were kept in mind when an opportunity for using them arose.

First, in every case of maternal typhoid fever the child, if stillborn, should be thoroughly examined by cultural methods for typhoid bacilli, whilst at the same time its serum should be subjected to Widal's test. If several cases occurred in which the latter was positive whilst at the same time no typhoid bacilli could be obtained from any of the fœtal organs, it would tend to prove that the child could receive agglutinins ready-formed from the mother. Apparently no such case has yet been recorded; in every instance in which the child's blood serum gave a positive Widal's test bacilli were either shown to be present also or else they were not looked for.

Secondly, the precise degree of the Widal's reaction should be determined in all such cases both for the mother's and for the child's serum, with a view to ascertaining whether the child's blood will sometimes give a positive reaction in greater dilution than the mother's does. If, for example, a positive reaction were given by the child's serum diluted 500 times whilst the mother's serum failed to give it when diluted more than 200 times, it would be some evidence in favour of the agglutinins being formed, in part at least, by the child itself. These are points upon which observations are still required, and it is only now and then that an opportunity for making the investigation presents itself.

The next question—namely, whether a child that has become infected by typhoid bacilli in utero is likely to exhibit macroscopic evidence of this in the form of ulcerated Peyer's patches similar to those of adults suffering from typhoid fever—may be answered both yes or no. In a few cases, such as those recorded by Charcellay,[14] definite ulceration of the fœtal Peyer's patches has been noted. Such macroscopic lesions, however, are quite the exception, and the great majority of the children whose blood and organs have yielded typhoid bacilli on cultivation, or whose serum has given a positive Widal's test, have shown no such macroscopic lesions in the bowel. The absence of intestinal ulceration, therefore, is no proof that the child has not become infected by typhoid bacilli in utero. Consequently, it is essential to cultivate from the fœtal organs if it is desired to find out whether the fœtus has become infected from the mother or not.

The fourth question, as to whether the child, if it lived, would have a natural immunity to typhoid fever, is unanswerable at present. It would be possible to give an answer if a watch were kept upon all children born alive from mothers who had suffered from, and survived, typhoid fever during the pregnancy. If even only one or two such children subsequently developed typhoid fever it would make it probable that none of them had an immunity, acquired either actively or passively in utero. It is a point that is not of any great clinical importance, because the number of living persons concerned is very small; but from a scientific point of view it would be of great interest to obtain an answer to the question, seeing that it bears upon the very complex subject of immunity and constitutes a natural experiment in man. It may, perhaps, be mentioned that the presence or absence of a positive Widal's reaction in the fœtus is by no means synonymous with the presence or absence of immunity to typhoid fever. The agglutinins upon which the Widal's test depends disappear rapidly from the blood after typhoid fever in the great majority of cases, as Dr. M. G. Louisson and myself[15] have shown. Acquired immunity to the disease does not disappear in this way. Consequently the fact that Widal's test is negative in a child born of a mother who has had typhoid fever during her pregnancy does not prove that the child is not immune to that disease. The longer before the child's birth the mother recovered from her illness the less likely would the infant's blood be to give a positive reaction, if one may argue by analogy with adults in whom the rapidity with which Widal's test, having been positive during the fever, becomes negative again a few weeks or months later is often remarkable.

---

[4] Ballantyne: Antenatal Pathology and Hygiene, the volume *entitled* "The Fœtus," p. 183, &c., Edinburgh, 1902.

[5] Bidone: Teratologia, 1894, p. 182.

[6] Charrin: Comptes Rendus Hebdomadaires de l'Académie des Sciences, Paris, 1898, p. 332.

[7] Porak: Archives de Médecine Expérimentale et d'Anatomie Pathologique, vol. vi., p. 192, 1894.

[8] Charrin and Duclert: Comptes Rendus de la Société de Biologie 1894, p. 563.

[9] Küss: De l'Hérédité Parasitaire de la Tuberculose Humaine, Paris, 1898.

[10] Vide Ballantyne, loc. cit.

[11] Hicks and French: *Loc. cit.*, q. v. for other references.

[12] Loc. cit.

[13] Loc. cit.

[14] Charcellay: Archives Générales de Médecine, 1840.

Next comes the question as to whether or not the child, if it survives in spite of the mother having had typhoid fever during the pregnancy, is likely to suffer in other ways as it grows up. There is a considerable amount of evidence to show that this is very likely to be so, though it would be too much to say that it must be so. Professor Osler[16] has recorded a case in which the mother died from typhoid fever and the unborn child was found to have a large recent blood clot in its brain. Had the infant lived it must have exhibited the effects of this lesion which was apparently due to the mother's illness. Dr. Ballantyne[17] quotes numerous observers who have found "important pathological changes in the fœtal viscera, more particularly in the liver, thyroid gland, brain, and suprarenal capsules, which have a far-reaching effect upon the post-natal life of the offspring. ...... They consist in degenerative and sclerotic alterations unaccompanied by the presence of microbes, but productive of a slackening of body metabolism and lowering of body temperature, along with a tendency to develop broncho-pneumonia, gastro-enteritis, and infantile atrophy. The same results are produced by other infectious maternal conditions also and they are probably due to the transmission of toxic principles through the placenta. ...... It has been thought that typhoid fever of the mother in pregnancy may be the cause of intellectual peculiarities in her offspring developed many years afterwards."

The Question of advising Artificial Delivery.

Before leaving this subject there is one matter of great practical importance that arises from the question of fœtal infection and that is, At what period of the maternal typhoid fever does the fœtus become infected with typhoid bacilli? It is held by some bacteriologists that these bacilli are present in the maternal circulation from an early date in the illness, though it has by no means been established that this is an invariable rule. One would like to know precisely when typhoid bacilli are most numerous in the mother's blood, because that would be the time when the fœtus would be exposed to the greatest chance of bacterial infection. In our own case[18] the mother died upon the twenty-fourth day and the fœtus was not infected. In the cases recorded by others[19] of recent years—that is to say, since the methods of distinguishing the typhoid bacillus from the bacillus coli communis have been rendered more accurate than they formerly were—the examinations were made in five cases when the mother's illness was in its second or third week, and in none of these did the fœtal tissues yield typhoid bacilli, whereas in the three cases when the examination was made during the fourth or a later week of the mother's illness the organism was present in the child each time. This number of patients is too small to generalise from but the results seem to indicate that before the end of the third week of the mother's illness the child is much less likely to have become infected than it is in the fourth or a later week. It seems probable that the prognosis as regards the immediate and subsequent life of the child will be much better if the infant could be born before this bacterial infection occurs. If therefore the pregnancy has reached the time when the child is viable, and if for any reason it is much desired that a living child should be born, it would seem that the best advice for the physician to give would be that of obtaining obstetric assistance for bringing about delivery before the mother's illness had reached the end of the third week. This advice would not be necessary if the mother's interests alone were to be considered, for in her case the prognosis is not materially affected by allowing the pregnancy to take its own course; but if the child's life is a material consideration it would appear to be very risky to allow it to remain in utero beyond three weeks from the beginning of the typhoid fever. With each week of the fever the chances that the child will become infected with typhoid bacilli rapidly increase.

Other Specific Fevers in the Unborn Child.

The discussion upon typhoid fever in conjunction with pregnancy has been somewhat dwelt upon, because, owing to the comparative ease with which both typhoid bacilli and agglutinins can be looked for, the cases afford an admirable field for investigation; they constitute natural experiments in man upon the trans-placental transmission of disease upon which there is scope for much more work in future cases. Much might be said about the other specific fevers also but there is only room for a few words about each here.[20]

Small-pox has long been known to be transmissible from the mother to the fœtus in utero. It by no means follows, of course, that the child has the eruption in every case in which the mother suffers from the disease during her pregnancy. Sometimes the fœtus has died before the exanthem could appear upon it. Sometimes the child will be born quite healthy and catch the complaint at birth—a post-natal, and not an antenatal, infection. Sometimes when the mother has had variola early in her pregnancy the latter has continued to term and the child, though exhibiting no external evidence of having had small-pox, has been noted to possess a natural immunity to the disease in after life. In quite a number of cases, however, the child has been born with the typical eruption of small-pox upon it. The degree to which the infant is affected is very variable, bearing no direct relationship, apparently, to the severity of the disease in the mother. The stage of the eruption in the child may be almost identical with that in the mother, varying from vesicle to scar according to the length of time the pregnancy has continued after the mother was taken ill. It is noteworthy that the eruption goes through a pustular stage in the unborn child just as it does in an adult; and, as a rule, the size of each lesion is greater than that seen in grown-up people. On the other hand, the duration of the eruption on the skin of the child may apparently be much longer than it is in adults, for in Laurens's case,[21] quoted by Dr. Ballantyne, the mother had small-pox early in her pregnancy, and two and a half months later the premature infant was born still covered with the eruption. Dr. Allan Warner[22] records an interesting case of the same kind. The mother was taken ill with small-pox upon Jan. 8th when four months pregnant. The eruption appeared upon her on Jan. 11th; by the 23rd the crusts were falling off, and by Feb. 3rd she was quite free from all scabs. Pregnancy continued until the 15th when miscarriage occurred; twin female children were delivered, both being well covered with a typical small-pox eruption in the pustular stage.

Another very remarkable fact is that the father may have small-pox at the time of conception, the mother may show no sign of the disease, and yet her child may have it in utero—a point which seems directly analogous with some cases of congenital syphilis. This opens up a wide field for discussion but one upon which it is not possible to enter here.

Three further points may be briefly noticed. First, there seems to be no stage of fœtal life, from the third month onwards, at which the child may not be born with the eruption upon it. Secondly, even if there is no eruption upon the child's skin it is very possible that owing to the route of infection being by the blood stream the lesions might be found upon mucous surfaces, a point which, as Dr. Ballantyne says, deserves full investigation in future cases. Thirdly, it might well be asked, What would be the behaviour of the child in regard to vaccination if the mother had been vaccinated successfully during the pregnancy? It seems clear[23] that two-thirds of such children are just like other children and "take" well at the usual time after birth, but that one-third prove insusceptible to vaccination for a short time after birth. The latter cases will, however, "take" six months or so later. It seems, therefore, that there may be a transmission of immune substances from the mother to the child in utero, but that even when this passive immunisation of the infant by maternal vaccination occurs it is quite transitory. It is therefore no argument against vaccination of the child that the mother has been vaccinated during the pregnancy, though it might be wise to counsel waiting for six months or a little longer before vaccination is performed in order to be more sure of its being successful at the first attempt.

---

[15] Louisson and French: The Duration of Positive Widal's Reaction after Recovery from Typhoid Fever, Transactions of the Clinical Society of London, 1907, and Guy's Hospital Reports, vol. lxi., 1907.

[16] W. Osler: Teratologia, 1895.

[17] Ballantyne: loc. cit., p. 201.

[18] Loc. cit.

[19] Loc. cit.

[20] Vide Ballantyne: Loc. cit.

[21] Laurens: Bulletin de la Société Anatomique de Paris, vol. xlii., 1868.

[22] Warner: THE LANCET, July 11th, 1903, p. 95.

Dr. Cordes has published an interesting case. The mother had small-pox during pregnancy and recovered. The child was born later and was vaccinated in the usual way but failed to "take." When it grew up vaccination was repeated on two further occasions, failing to "take" each time. Soon afterwards the young man went to China, caught small-pox, and died from it. It would seem here as though the mother's small-pox had rendered the child insusceptible to vaccination without at the same time rendering him secure from small-pox itself. Not only was he not secure from the disease but he took it with fatal severity. The importance of a possibility of this kind is obviously great.

Just as variola may be transmitted from mother to child in utero, so may other specific fevers. The total number of cases in which such a disease as measles coincides with pregnancy is naturally not great and the number of instances in which the child is born during the stage of the exanthem in the mother is still smaller. The total number of recorded cases of fœtal measles is therefore not great but Dr. Ballantyne[24] describes some and has collected altogether 20. *He also records cases of fœtal scarlet fever, chicken-pox*, mumps, pertussis, influenza, rheumatic fever, relapsing fever, yellow fever, cholera, malaria, and even cerebro-spinal fever and anthrax. There is clearly too little time at our disposal to give an account of all of these but after what has already been said in regard to the transmission of typhoid bacilli from the mother to the fœtus it may be of special interest to say a few words about the last two.

A most conclusive case of fœtal cerebro-spinal meningitis is recorded by Dr. Ballantyne. The mother died from the disease, the seven months child remaining in utero. At the necropsy there was the typical lesion in the maternal meninges, over both the brain and the spinal cord, whilst the meninges of the fœtus exhibited precisely similar changes, and the diplococcus intracellularis meningitidis was cultivated separately both from the mother and from the child.

In regard to anthrax, Rostowzew[25] investigated three cases in which the mothers died from the effects of malignant pustule and he found numbers of the anthrax bacilli in the placental intervillous spaces and in the fœtal villi, smaller numbers being also present in the fœtal blood and viscera.

There is abundant proof, therefore, that notwithstanding the "barrier action" that the healthy placenta may exert in protection of the child from injurious substances, the barrier may become broken down, or at least passed, as the result of many different diseased states in the mother; and that not only chemical substances in solution but also comparatively large concrete bodies such as bacteria may then gain access to the child. Before leaving this subject a few words may be said as to the effects of some of these fevers upon the mother.

THE EFFECTS OF MEASLES UPON THE PREGNANT WOMAN.

Pregnancy does not confer any immunity against the taking of measles. A pregnant woman who has not had the disease should therefore avoid exposure to infection. Should she develop the illness the prognosis as regards herself is good, but there is a considerable danger of abortion or premature delivery during the eruptive stage. It has been suggested[26] that measles affects the mucosa of the uterus as it does that of the nose, pharynx, eyes, stomach, bronchi, bladder, and bowel, causing an inflammatory congestion similar to that which has been observed in some cases of variola, and thereby accelerating miscarriage. If the exanthem stage is past there seems to be little or no danger either to the mother or to the child, unless the former should develop broncho-pneumonia, in which case, owing to the abdominal condition, *especially in the later months, the* dyspnœa and the repeated attacks of coughing may be a source of greater trouble and anxiety than usual.

THE EFFECTS OF PERTUSSIS UPON THE PREGNANT WOMAN.

The latter applies also to whooping-cough during pregnancy. Pertussis in an adult is very apt to be exceedingly distressing in any case, but when it is combined with pregnancy the patient may be in a very pitiable plight. The paroxysms of rapidly repeated cough, each bout sometimes terminating only in the ejection of some of the gastric contents, render the patient abjectly miserable. There is a danger of premature emptying of the uterus in consequence of the extreme and constantly repeated contractions of the diaphragm and abdominal muscles, but otherwise the prognosis is good both as regards the mother and the child.

THE EFFECTS OF SCARLET FEVER UPON THE PREGNANT WOMAN.

Scarlet fever arising in a pregnant woman has a relatively much graver prognosis than it has in other cases. The complication is least serious when it occurs early in the pregnancy and when it does not lead to abortion. It is, however, much rarer at this time than it is towards the end of pregnancy—so much so that it has been thought that the pregnant state confers some degree of immunity to it. The converse is true of the puerperium, when the patient is particularly liable to the infection, and whether the scarlet fever begins either immediately before or immediately after labour, *not only is the intensity of the disease itself*, its rash and its pyrexia, apt to be extreme, but also there is a very great liability to sapræmia, or, still worse, to actual septicæmia from streptococcal invasion. This view is not held by all; indeed, Dr. R. Boxall,[27] in a series of papers before the Obstetrical Society in 1888, contended that scarlet fever begets scarlet fever even in a pregnant woman, and has no relation to puerperal septicæmia. Dr. F. Foord Caiger, however, gives it as his opinion, from personal experience, that the conjunction of scarlet fever with present or recent pregnancy near to term cannot but be viewed with the gravest anxiety. The maternal mortality varies in different epidemics, but it may be as high as 75 per cent.

THE EFFECTS OF CHICKEN-POX AND MUMPS UPON THE PREGNANT WOMAN.

Chicken-pox is often much more severe an illness in adults than it seems to be in children, but there is no evidence to show that its occurrence in conjunction with pregnancy makes it any worse. The prognosis as regards both the mother and the child is good; though, as has been stated, the child may be born with the eruption upon it if the mother suffers late in the pregnancy.

The same remarks apply to mumps. It is, perhaps, a little surprising that mumps do not act very detrimentally upon the pregnancy, seeing that there is a considerable tendency for the parotitis to be associated with inflammation of the genital organs—ovaritis in woman, orchitis in man. The existence of pregnancy does not seem to render the patient more liable to ovaritis than usual, however, and the pregnancy often continues undisturbed.

THE EFFECTS OF DIPHTHERIA UPON THE PREGNANT WOMAN.

The pregnant state confers no immunity to infection by diphtheria and the disease appears to have a particular virulence in the case of pregnant women. There was a discussion upon the subject in THE LANCET[28] in 1903, and Dr. Chambrelent and Dr. Michelean[29] have collected together a number of cases in Bordeaux. The statistics available are open to the objection that they are based upon cases taken from the literature and not upon a consecutive series of unselected cases. Nevertheless two things seem clear: first, that the diphtheria is particularly prone to attack the larynx in these cases, as in children, rather than the fauces as in other adults; secondly, that if antitoxin is not employed the mortality is very great. Of Dr. Chambrelent and Dr. Michelean's cases there were 12 who received no antitoxin, and six of them died, a mortality of 50 per cent. All their cases in which serum was given recovered. Mr. A. E. Kennedy[30] points out that even the giving of antidiphtheritic serum early will not save every such case; nevertheless the proportion of recoveries is so much greater when serum is used early than when it is not that it should always be given at the earliest possible moment to a pregnant woman who has diphtheria.

---

[23] Williams: Brit. Med. Jour., 1902, vol. ii., p. 1683. Fulton, Wallace, Stretton, and Rake: ibid., p. 1743. Crowe, Palmer, Griffith, Hayward, and Moxham: ibid., p. 1806. Maude, Cordes, and Sharp: ibid., p. 1932. Leading article, ibid., p. 1973. Gornall: ibid., 1903, vol. i., p. 111.

[24] Ballantyne: Loc. cit. And see Lefour: Revue Obstétrique Internationale, Jan. 11th, 1896.

[25] Rostowzew: Zeitschrift für Geburtschülfe und Gynäkologie, 1897.

[26] Remy: Archives de Tocologie et de Gynécologie, June, 1894.

[27] Vide also Stephenson, THE LANCET, Nov. 18th, 1893, p. 1246; and Buxton, Brit. Med. Jour., 1895, vol. i, p. 474.

[28] THE LANCET, June 13th, 1903, p. 1686.

[29] Chambrelent and Michelean: Gazette Hebdomadaire des Sciences Médicales de Bordeaux, May 17th, 1903.

THE EFFECTS OF SMALL-POX UPON THE PREGNANT WOMAN.

The effects of small-pox upon pregnancy have been closely observed in an epidemic during which there were opportunities of watching 432 consecutive cases in women under 50, 80 of whom were pregnant.[31] Of the latter, 15 per cent. died, whilst the mortality amongst the non-pregnant women was 11 per cent. The prognosis is, therefore, rather worse when the woman is pregnant, though not so much worse as might have been expected. The statistics are here, but I need not read them. In the 80 pregnant cases confluent small-pox was seen in four and hæmorrhagic in six; all ten died. In the 352 non-pregnant cases the confluent form was observed in three and the hæmorrhagic in 11; two of the confluent cases recovered. Two pregnant women died, though their small-pox was of the mild type. Of the primiparæ, 9 per cent. died; of the multiparæ, 17·25 per cent. The general impression during the epidemic was that there was a tendency for the pregnant women to suffer from a severer type of the disease than the others. The prognosis as regards the child is grave. Of the 80 cases, 23 aborted or had premature delivery; 16 other children were delivered alive in cases where the small-pox was in progress—eight at term and eight prematurely; only three out of the 16 children lived longer than six months. In two cases the small-pox eruption was present upon the child at birth.

CHOLERA AND PREGNANCY.

Cholera is fortunately of rare occurrence in European countries, but occasionally there are epidemics such as that at Hamburg. Schütz[32] published a complete report of the influence of cholera upon menstruation, pregnancy, labour, and child-bed in the annual report of the Hamburg State Infirmary at that time. He treated 2500 adult females during the epidemic, and found that cholera shows a marked tendency to affect the uterus. In the cramp stage of the disease uterine bleeding occurs in one-third of the non-pregnant cases. It is not surprising, therefore, that the effects of cholera upon pregnancy are disastrous. 115 of the patients were pregnant at the time they were taken ill with cholera; and Schütz puts this disease upon a level with small-pox in the way it is almost certain to provoke interruption of pregnancy. Kovalsky[33] finds the same to hold good in Russia, where over 80 per cent. of the pregnancies come to an untimely end in cholera patients. The prognosis as regards the mother, bad as it is in many of the cases, is not much worse in pregnant than it is in non-pregnant persons, particularly if the mother is taken ill when the pregnancy is not advanced. There is nothing to be gained by advising steps to be taken to terminate the pregnancy; indeed, convalescence is greatly impeded during the puerperium, and the risk of sepsis is greatly increased, so that the pregnancy should be allowed to continue if it will.

PLAGUE AND PREGNANCY.

The above remarks concerning cholera apply with equal force to plague. Pregnant women show no particular immunity to this disease. The prognosis as regards the mothers is no worse than it is in non-pregnant patients, but the disease terminates the pregnancy in the great majority of cases. Dr. B. H. F. Leumann[34] records some instances in which the mothers recovered exceedingly well, but there seem to be fewer statistics in regard to the effects of plague upon pregnant women than there are concerning cholera.

MALARIA AND PREGNANCY.

The effects of malaria upon pregnancy are necessarily variable, both on account of the varying severity of the malarial attacks in different patients and in different climes, and also because the immediate surroundings of the patient are so very diverse in different parts of the tropics. It is not easy, therefore, to summarise them in any but quite a broad way. There are papers by Italian observers[35] upon the subject and a few in English, notably one by Mr. F. H. Edmonds[36] of Demerara. The general conclusions which may be drawn are that malarial cachexia has almost no influence upon pregnancy and its course; that in mild cases of intermittent malaria pregnancy usually continues normally to term notwithstanding the ordinary attacks of fever in the mother; that in cases where the maternal temperature reaches 104° F. during the attacks abortion takes place in a large proportion of cases; whilst in the bilious remittent type of the disease not only is the pregnancy almost certain to terminate prematurely, but also the child, even if it has reached a viable age, is nearly always dead, and the prognosis as regards the mother is distinctly graver than it would be in a non-pregnant person with the same degree of malarial illness. There is a very great tendency for both the fœtal movements and the uterine contractions to become excessive during the acute malarial attack. It has sometimes been urged that quinine should not be given in such large doses, or even at all, to a pregnant woman with malaria on the theoretical ground that this drug itself increases uterine contractions and predisposes to abortion, but in practice it has been found by Mr. Edmonds and others that the greatest tendency to premature delivery is in the cases where no quinine is given, and it is emphatically urged by those who have had experience that quinine should be given all the more on account of the conjunction of pregnancy with the malaria. It actually makes the uterine contractions less than they are in cases in which no quinine is given, and by diminishing the pyrexia and lessening the frequency of the attacks not only is the prognosis as regards the mother's life greatly improved, but also the chances that the child will be stillborn are very considerably diminished. It may be incidentally remarked that the infant is sometimes born with a greatly enlarged spleen, though there is not yet any absolute proof that the child's blood may actually contain the plasmodium malariæ at the time of birth.

INFLUENZA AND PREGNANCY.

Influenza is a disease the severity of which is so variable in different seasons that its effects upon pregnant women in particular are difficult to gauge. The statistics show that the prognosis is much graver in times of widespread epidemic than it is in sporadic cases, but this applies equally to non-pregnant as to pregnant patients. Jacquennier,[37] as long ago as 1837, came to the conclusion that influenza was no more dangerous to pregnant women than to anybody else. The type of the disease was different in those days, however, from what it is now, and Cazeaux regards it as likely to be detrimental to the child. The weakness that is left after the acute phase is past is apt to last even longer in the pregnant woman than it is in other persons, and therefore even if the pregnancy does not come to an untimely ending the child is very apt to be born with deficient vitality and a tendency to die young. Lambinon[35] regards the bronchitic or pneumonic form of influenza as the most grave as regards both the mother and the child; but all observers agree that nothing is to be gained by interfering with the pregnancy, and the treatment should be, first, prophylactic in times of epidemic; and, secondly, that of extremely careful medical supervision should the disease be contracted in spite of all precautions taken to avoid it.

During an epidemic of influenza in Paris M. Bar and M. Boullé[39] carefully watched the effects of the disease in 40 pregnant women. One of these had the nervous, two the gastro-intestinal, and 37 the respiratory form of the disease. Four of the latter developed influenzal pneumonia, two recovering slowly after delivery, one dying a few hours, and one on the third day after the child was born. The prognosis as regards the mother is, therefore, grave in the pneumonic type of influenza, but as regards the course of the pregnancy itself these observers came to the conclusion that it was not affected even if the influenza was severe.

---

[30] Kennedy: THE LANCET, July 11th, 1903, p. 125.

[31] Van der Willigen: Nederlandsch Tijdschrift voor Geneeskunde, No. 11, 1895.

[32] Schütz: Centralblatt für Gynäkologie, No. 45, 1894.

[33] Kovalsky: Répertoire Universelle d'Obstétrique et de Gynécologie, Oct. 25th, 1895.

[34] Leumann: THE LANCET, Sept. 17th, 1898, p. 748.

[35] Vide Ballantyne, loc. cit.

[36] Edmonds: Brit. Med. Jour., 1899, vol. i., p. 1023.

[37] See Lambinon, Journal d'Accouchements, Liège, Oct. 15th, 1899; Ameiss, American Journal of Obstetrics, April, 1899; and Hennig, Centralblatt für Gynäkologie, No. 6, 1896.

[38] Loc. cit.

[39] Bar and Boullé: L'Obstétrique, May 15th, 1898.

LOBAR PNEUMONIA DURING PREGNANCY.

As regards ordinary lobar pneumonia in a pregnant woman, exclusive of pneumonia developing during the puerperium, the cases that have been in Guy's Hospital point to the following conclusions. 1. *If the pneumonia occurs early in the pregnancy*, the prognosis as regards the mother is little if any worse than it is in other patients of the same age. As regards the pregnancy there is a probability that abortion will take place in about one-third of the cases, whilst in two-thirds of the cases there is a likelihood not only that the mother will recover completely but also that the child will be born living and healthy at term. 2. *If, on the other hand, the pneumonia develops during the second half of pregnancy* the probability is that the latter will be then terminated in two-thirds of the cases and the chances of the mother surviving will be greatly diminished, nearly half the patients dying if the pneumonia sets in after the sixth month. In other words, the more advanced the pregnancy the greater is the probability of an expulsion of the fœtus and the graver the prognosis for the mother. Dr. Hirst[40] found that out of 43 cases of lobar pneumonia in pregnant women 28 were less than six months pregnant and of these 11 aborted; of the 15 who were more than six months pregnant ten aborted, and of these 15 mothers seven died.

The question might be asked: Seeing that the prognosis as regards the child is in any case grave, might it not be wise to counsel termination of the pregnancy for the mother's sake if pneumonia sets in? The answer is definitely, No. Matton[41] records that out of 38 cases of pneumonia during pregnancy labour was induced in 18, and nine of these patients died—a mortality of 50 per cent.; whereas of the 20 cases left to themselves only one died. These figures are not very new, and in interpreting them it must be remembered that labour would probably be induced chiefly in the worst cases, so that the high mortality cannot be entirely attributed to the treatment; but it is clear that the chances of the patient's recovery are at any rate not increased by interfering with the pregnancy, so that the right course to pursue is to treat the patients exactly as if they were not pregnant, unless nature itself makes obstetric assistance necessary.[42]

It is wonderful how much illness a patient, even though she be pregnant, can pass through and yet recover from. Dr. Francis Hawkins,[43] for instance, records a case of a lady, aged 35 years, who, when four months pregnant, developed double basic pneumonia, followed by endocarditis, severe bronchitis, acute dilatation of the heart, and finally by empyema. The pregnancy continued up to the sixth week after the onset of the illness, and had it not been for the empyema it would apparently have continued to term. The empyema was treated in the usual way, by rib resection, and ultimately, after a long illness of extreme severity, the patient got perfectly well.

Another case[44] illustrates the possibility of good results in spite of a grave prognosis. The patient was 38 years of age, and when eight and a half months pregnant she was seized with lobar pneumonia in the left lung. She was extremely ill. The crisis came on the seventh day, but very shortly afterwards she was as dyspnœic as ever and the temperature rose again. A week after the crisis pus was located in the left pleural cavity and 34 ounces of it were drawn off by aspiration. It was hoped that rib resection might be avoided, but three days later it was necessary to give chloroform and drain the empyema. The patient was now at full term and a few hours after the operation a strong healthy child was born, labour being easy and convalescence uneventful.

The pneumococcus may cause other lesions than pneumonia in a pregnant woman, but there is little evidence to show that the association is not due to chance. Vinay,[45] for example, records the case of a woman who, having suffered from great gastric irritability throughout her pregnancy, developed multiple subcutaneous abscesses during the seventh month. The pus gave cultures of pneumococci. The patient made a long struggle but ultimately died 19 days after delivery. There was nothing in this case to show that the pregnancy was in any way directly concerned as a causal factor in the pneumococcal infection.

ADDISON'S DISEASE AND PREGNANCY.

We may now pass on to quite a different class of illnesses in the mother.

Addison's disease in conjunction with pregnancy is necessarily rare. There seem to have been only two cases of the kind in Guy's Hospital in the last 20 years, and both patients died. It is always very difficult to give an accurate prognosis in any case of Addison's disease, patients often dying almost suddenly when there has been no objective alteration in their general state for months previously. Consequently it is not possible to say that it was the pregnancy that hastened the end in these two cases. Nevertheless, the impression left upon one's mind is that the added strain of pregnancy was the immediate cause of death and that pregnancy is therefore a very bad thing for a patient who has Addison's disease.

There is another point to mention, and that is the possible difficulty in diagnosis. Pregnancy itself may cause considerable increase in the pigment of the patient's skin, and the symptoms of weakness, vomiting, and even syncope may be attributed to the pregnancy itself in a case in which the pigmentation is not extreme and in which the buccal mucosa has not been examined in a good light.

The two cases mentioned above were so similar to one another in most respects that the following notes of one of them may be taken to apply to both. The patient was 40 years of age, had had 11 children, the last two and a half years previously, and she was now five and a half months pregnant. She had begun to suffer from weakness, syncopal attacks, and undue pigmentation of the skin and buccal mucosa six months before she became pregnant, and Addison's disease had been diagnosed. At first the symptoms were not greatly increased by the pregnancy, but from the fourth month onwards the patient became distinctly weaker; attacks either of vomiting or syncope became so frequent that obstetric measures for terminating the pregnancy were adopted in the middle of the sixth month. The pulse-rate rose rapidly after delivery and the heart's action became very feeble. There were several ill-defined convulsive seizures and death occurred two days after labour. It may be mentioned that treatment by adrenalin had been pursued. At the necropsy both suprarenal capsules were typically caseous and there was no other macroscopic disease.

LEUKÆMIA AND PREGNANCY.

Turning now to leukæmia, the cases may be divided into the acute and the chronic; and these are almost synonymous with the lymphatic and the spleno-medullary varieties. The acute form ends so rapidly in any case—usually within a few months of its first symptoms—that pregnancy is not at all likely to arise in a person who already has the disease. Acute leukæmia may, however, develop in a woman who is pregnant and the summary of what then happens is: that, bad though the prognosis is in other cases, the conjunction of pregnancy with the disease makes it still worse. Whether the association is accidental or whether something anomalous about the pregnancy may perhaps cause the leukæmia, it is hardly possible to say; but judging from the rarity with which the two are associated their conjunction would seem to be accidental. Hilbert[46] records the case of a woman, aged 37 years, who had been perfectly well up to the eighth month of her eighth pregnancy. She then complained of severe headaches, diarrhœa, fever, and gingivitis. Rhinitis and purpura followed; and blood examinations indicated typical lymphatic leukæmia. The pregnancy continued to the ninth month, when a macerated child was born spontaneously. The mother died from complete exhaustion ten hours after the labour and a little more than a month from the onset of her symptoms.

Spleno-medullary leukæmia, on the other hand, may last for three or four years after the first symptoms lead to its diagnosis and pregnancy may arise in a patient who is already known to have the disease. Dr. Herman[47] has recorded one such case and has collected altogether seven undoubted others. Owing to the enlarged spleen pregnancy gave much more abdominal distension than normal; in some cases, indeed, it is wonderful how both the huge spleen and a full-term pregnancy can be included in the same abdomen. It is not surprising that there is a great tendency to premature delivery. The puerperium is a very dangerous time, some of the patients dying very soon after the termination of the pregnancy, though if the patient survives the particularly dangerous time that immediately follows delivery considerable temporary improvement in her general health is to be expected. Dr. Herman concludes that pregnancy does nothing but harm to a leukæmic patient and recommends that it should be artificially terminated as soon as possible.

---

[40] Hirst: American System of Obstetrics. See also T. Oliver: THE LANCET, June 10th, 1899, p. 1557.

[41] Matton: Journal de Médecine de Bruxelles, 1872, p. 412.

[42] See also Rendu: Journal de Médecine et de Chirurgie, Paris, vol. i., 1893.

[43] Hawkins: THE LANCET, April 20th, 1895, p. 989.

[44] H. M. Cooper: Brit. Med. Jour., 1901, vol. i., p. 767.

[45] Vinay: Revue d'Obstétrique Internationale, May 21st, 1897.

[46] Hilbert: Deutsche Medicinische Wochenschrift, No. 36, 1893.

[47] Herman: Transactions of the Obstetrical Society of London, vol. xliii., 1901, p. 234.

It would be very interesting to know whether the children of leukæmic patients are ever born with enlarged spleens similar to the enlargement of that organ sometimes found in the offspring of parents suffering from malaria.[48] It would also be interesting to know what effects upon the pregnancy repeated applications of the x rays to the maternal abdomen would have. There are no statistics upon the subject. Evidence is accumulating to show that x ray applications may be very efficient in diminishing the size of the spleen and in ameliorating the symptoms for the time being in cases of spleno-medullary leukæmia. If it were known that their application to the splenic region in the mother had no ill-effect upon the child, it might be well to advise leaving the pregnancy to run its course whilst the leukæmia was simultaneously being treated with the x rays. In the absence of evidence either way, however, it would seem likely that the x rays would do harm to the child, in which case rather than risk the mother's life unnecessarily, the right course to advise would seem to be to have the pregnancy terminated as soon as possible and then to adopt the x ray treatment if it still seemed good to do so.

DIABETES MELLITUS AND PREGNANCY.

Diabetes mellitus in conjunction with pregnancy has many points of interest. There has been much discussion as to the nature of the reducing bodies that are often present in the urines of pregnant women, especially in the later months. There is no doubt that lactose is commonly present, both towards the end of pregnancy and during the puerperium; but it seems equally clear that a considerable proportion of pregnant women have actual glycosuria.

Saleim,[49] as the result of careful examinations, states that two-thirds of all pregnant women pass increased quantities of glucose in this way. This glycosuria of pregnancy causes no symptoms, however, and it disappears without treatment. It seems therefore to bear no relationship to diabetes mellitus itself. Nevertheless, seeing that pregnancy thus predisposes to glycosuria and seeing that, if they can become pregnant, the patients who are suffering from this complaint must necessarily be comparatively young and therefore predisposed to the worst form of diabetes mellitus, it might well have been expected that pregnancy would be very harmful if it occurred in a patient already suffering from diabetes mellitus. It is difficult amongst hospital cases to be sure that the glycosuria has ante-dated pregnancy, and only two clear instances of the kind have occurred in Guy's Hospital lately. One of these patients was a very stout woman, aged 36 years, whose pregnancy went naturally to term although her urine was loaded with sugar and also contained both diacetic acid and acetone in abundance. The other was a younger woman, aged 23 years, whose urine also contained sugar, diacetic acid, and acetone, and whose pregnancy ran a perfectly normal course, ending in the birth of a healthy child at term. In both these cases there was a large excess of liquor amnii; this has been noticed by several observers as being almost characteristic in the case of diabetic mothers and the amniotic fluid often contains sugar.

It is not every case that passes through pregnancy with as little trouble as the above. Ludwig,[50] for example, records a severe case in which a woman, aged 42 years, was in her ninth pregnancy. Marked diabetes mellitus had existed for two and a half years, but she had reached the last month of this pregnancy without any trouble beyond pruritus vulvæ. The abdomen now became suddenly larger and the patient was admitted to hospital very ill, semi-conscious, with abundance of sugar, diacetic acid, and acetone in her urine. Labour was induced, nine pints of liquor amnii escaping. The fœtus was in an advanced state of maceration. The patient was very ill for two days afterwards, but she slowly recovered, though her diabetes persisted as before. It is interesting to note that the hydramnios occurred suddenly in this case; and it is also noteworthy that the fœtus was macerated, for it may have been on this account that the mother was so ill.

The general conclusions that other recorded cases[51] point to are: that diabetes mellitus is by no means incompatible with pregnancy; that cases of moderate severity are not made materially worse by pregnancy; and that there seldom seems to be any reason for interfering with the pregnancy.

Some observers[52] have even stated their opinion that pregnancy, instead of making the diabetes worse, actually ameliorates it for the time being—a point of great interest when one recalls the effects of typhoid fever, for example, in similar cases. A patient with diabetes mellitus may develop typhoid fever, and during that illness the glycosuria may entirely cease, returning again when the fever subsides.

DIABETES INSIPIDUS AND PREGNANCY.

Diabetes insipidus is a condition which may actually arise during pregnancy as the result of a severe mental shock at that time. Should it do so, it seems that it does not go away again after the child is born. It may also have existed previously to pregnancy. The chief trouble to the patient is the fact that when the uterus enlarges there is less room for the bladder; micturition becomes annoyingly frequent and acute retention of urine is apt to occur if micturition is postponed. Sleep may become very broken in consequence of this and also because of the constant necessity for drinking water or other liquid. The pregnancy itself runs no abnormal course, the children may be perfectly healthy, and there is no marked tendency to hydramnios with its inordinate abdominal distension such as occurs in diabetes mellitus.

There seems to have been no case of extreme diabetes insipidus in association with pregnancy in Guy's Hospital, but in one medium case the patient, a very stout woman, was passing up to 15 pints of limpid urine daily, of specific gravity 1003. The water alone was increased, the total solids being normal. In this instance the polyuria and polydipsia had not been present until the middle of the fifth pregnancy, when these symptoms came on suddenly after a severe fright. If the patient failed to micturate directly the desire came she developed retention of urine, necessitating the use of a catheter, and on some such occasions the bladder contained as much as four pints at a time. The child was born normally but the polyuria and polydipsia persisted.

Cases of diabetes insipidus in association with pregnancy have been recorded by Bennett, Matthews Duncan, Esterle, Merbach, Kleinwachter, Vinay,[53] and others. The two following may be mentioned in particular because they are instances of diabetes insipidus developing from mental shock and because they show that although the diabetes insipidus does not seem to be in itself dangerous the patients are apparently more liable than others to contract, and die from, intercurrent maladies of the lungs.

One patient was a woman, aged 32 years, who kept a farm. When she was pregnant a flood destroyed all her crops and immediately after this severe mental shock polydipsia and typical diabetes insipidus set in. The patient passed up to 5¼ gallons of urine daily yet became pregnant for the second time. During the pregnancy the polyuria abated somewhat, the least quantity of urine passed in one day being nine pints. Delivery was normal; thereafter the urine at once increased in quantity again but the patient left the hospital otherwise in good health. Shortly afterwards, however, she died from double pneumonia.

The second patient was a woman, aged 26 years, who was four months pregnant for the fifth time when a fire destroyed her house and all she possessed. Diabetes insipidus set in directly, 20 pints of almost pure water passing daily; the total solid constituents of the urine were normal. Labour occurred normally at term but the

---

[48] Ballantyne: Loc. cit., p. 204.

[49] Saleim: Thèse de Montpellier, 1900, and American Journal of Obstetrics, 1901, p. 243.

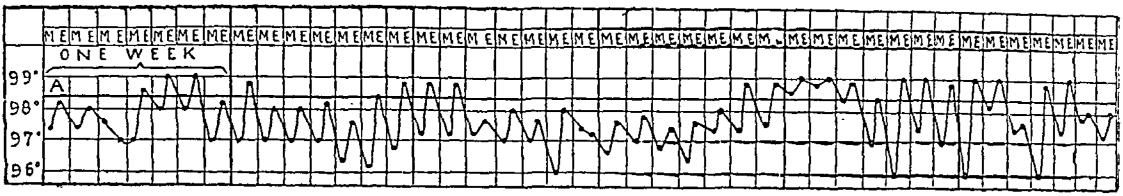
[50] Ludwig: Centralblatt für Gynäkologie, No. 11, 1895.

[51] Kleinwachter: Zeitschrift für Geburtshülfe und Gynäkologie vol. xxxviii., 1898. Brocard: Semaine Médicale, Nov. 30th, 1898.

[52] Brit. Med. Jour., 1907, vol. ii., Epitome, p. 288.

[53] Vinay: Lyon Médical, Nov. 17th, 1893; q. v. for other references.

CHART 3.



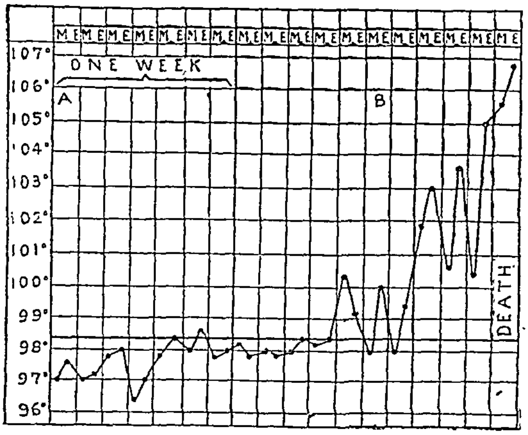
Chorea and pregnancy. Movements violent. No pyrexia. Recovery. A, On admission.

child was sickly and died in two weeks. The patient continued to have polyuria; she developed phthisis and died 19 months after the fire.

MYXŒDEMA AND PREGNANCY.

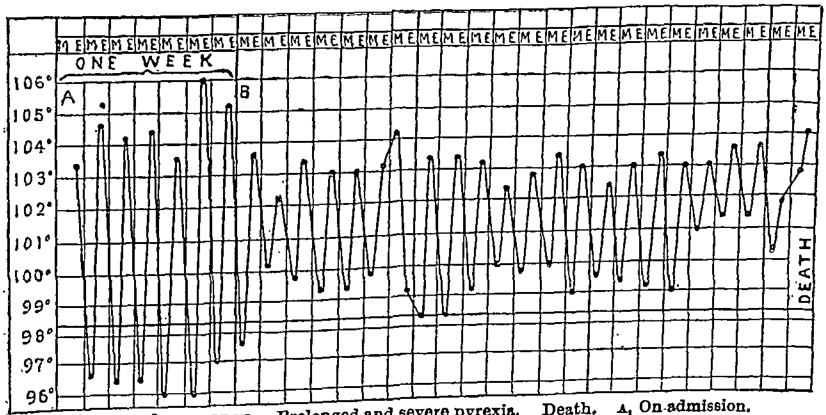
There do not seem to be many recorded cases of pregnancy in patients suffering from myxœdema. Apparently this disease is not incompatible with conception, at any rate in persons who are receiving thyroid treatment; in the one case observed by me the pregnancy had no ill-effect upon the mother's condition, and if it had not been for the accident that her pelvis was much contracted there seems to be no reason why she should not have borne children naturally. As regards the child, the main danger is that it will have a deficient thyroid gland and be a cretin, unless upon the first suspicion of this treatment with some preparation of thyroid gland is begun. The patient in question was 40 years of age and enormously stout. She had been receiving thyroid treatment for her myxœdema for over two years. Her pregnancy went to full term and natural labour came on, but there were great obstetrical difficulties which need not be recounted. The recuperative power of the patient, notwithstanding her myxœdema, is evidenced by the fact that she ultimately got quite well in spite of long-continued sapræmia and a "white" arm due to thrombosis of the right axillary vein.

CHART 4.



Chorea and pregnancy. Pyrexia. Death. A, On admission. B, Accouchement forcé.

CHART 5.



Chorea and pregnancy. Prolonged and severe pyrexia. Death. A, On admission. B, Spontaneous premature delivery.

There is no time left for the discussion of a number of other conditions that one would like to enter upon, such as the effects of pregnancy upon Graves's disease, upon ordinary goitre, upon malignant disease, upon phthisis, upon heart disease, upon chorea, and upon many other things which are full of interest. The varieties of jaundice that may occur during pregnancy might form a chapter by themselves. There is a whole group of cases in which a pregnant woman dies and nothing very abnormal is found at the post-mortem examination to account for her death. It is with regret that one is obliged to leave out these for want of time. My views have already been expressed about some of them elsewhere,[54] however; and if I may be pardoned for making one more remark it is in connexion with chorea gravidarum.

CHOREA AND PREGNANCY.

Mr. H. T. Hicks and myself[55] have expressed the view that "'simple' chorea gravidarum is to fatal chorea gravidarum as 'simple' endocarditis is to fungating endocarditis," and that the violence of the choreic movements is not of nearly so great importance in estimating the prognosis as is the presence or absence of pyrexia. Out of 29 consecutive cases of the disease at Guy's Hospital 26 patients recovered and three died. In none of the 26 cases of recovery was there any material pyrexia, although in some of the cases the movements were very violent; in the cases that died, on the other hand, there was marked pyrexia in every instance. There will doubtless be exceptions, but as a broad rule we suggest that, provided the temperature remains almost normal, as in Chart 3, the prognosis is good even if the movements are very violent, whereas if the chart shows marked pyrexia, uninfluenced by salicylates, as in Charts 4 and 5, the prognosis is very grave, provided no obvious cause, such as pleurisy, acute tonsillitis, and the like, can be found to account for the fever. It will be very interesting to see whether other observers will find this to hold good in future cases that may come under their notice.

I thank you, Mr. President and Gentlemen, for listening so patiently to these lectures, and I will conclude by reverently recalling to your thoughts the name of their founder, Dr. Goulston.

---

[54] Hicks and French: Mitral Stenosis and Pregnancy; Transactions of the Royal Medical and Chirurgical Society, vol. xxxix., 1906, pp. 559-620. Also Guy's Hospital Reports, vol. lx., 1906.

[55] French and Hicks: Chorea Gravidarum, The Practitioner, August, 1906.

UNIVERSITY OF LONDON: UNIVERSITY COLLEGE.—Professor E. H. Starling will give a course of eight lectures—the Mercers Company lectures on Recent Advances in Physiology—during the summer term, on Fridays at 5 P.M., commencing to-day (May 15th). The first four lectures will deal with the Physiology of Absorption from the Alimentary Canal. The last four lectures will deal with the Physiology of the Respiratory Movements. These lectures are open without fee to all students of the London medical schools, as well as to registered practitioners, on presentation of their cards.

JUVENILE TABES DORSALIS: NOTES OF FIVE CASES.

BY SYDNEY STEPHENSON, M.B., C.M. EDIN., F.R.C.S. EDIN.,

OPHTHALMIC SURGEON TO THE EVELINA HOSPITAL, THE QUEEN'S HOSPITAL FOR CHILDREN, HACKNEY ROAD, LONDON, ETC.

A REMARKABLE communication on juvenile tabes dorsalis by Dr. A. Cantonnet, of the Hôtel Dieu, Paris,[1] has once again brought this rare and interesting disease to the front. Dr. Cantonnet, after describing a case of his own in a lad aged 15 years, analysed 89 cases of juvenile tabes dorsalis which he had collected from the literature, and reached some important conclusions with regard to the malady. For example, in 57·1 per cent. of the cases there was certain evidence of inherited, and in 8·5 per cent. of syphilis acquired during the first years of life; total, 65·6 per cent. Moreover, in 13·90 per cent. of the cases personal stigmata were found in choroido-retinitis or in interstitial keratitis. The part played by syphilis in the production of the malady, therefore, is as considerable as in adult tabes dorsalis. Direct heredity was not common. In 15·30 per cent. of the cases analysed by Cantonnet one of the parents was tabetic, and in 12 per cent. one was affected with general paralysis. Juvenile tabes dorsalis, which, on the average, commences at 15 years of age, affects females in 62·6 per cent. as against males in 37·3 per cent., a striking and as yet unexplained contrast to the sex-incidence in later life, which is given by Gowers[2] as "about ten to one." The ocular symptoms of juvenile tabes dorsalis include inequality of the pupils, the Argyll Robertson phenomenon (simple or complicated), optic atrophy, paralysis of the extrinsic muscles of the eye, latent ocular ataxy, and so forth. According to Cantonnet the prognosis as regards sight in juvenile tabes dorsalis is unfavourable, seeing how common optic atrophy is. On the other hand, as regards life, it is relatively good, since among 12 patients whose history was followed for from 10 to 20 years after the beginning of the affection there was not a single death. It must not be forgotten, however, that (as in the adult) general paralysis may supervene, and, indeed, four such instances are included among the cases collected by Cantonnet.

That juvenile tabes dorsalis, like adult tabes dorsalis, may assume various clinical guises is well known. Thus, there is a group of cases mainly characterised by "lightning pains" in the legs or the arms, ataxy of the limbs, and loss or reduction of the knee- and ankle-jerks. It is to be noted that in about one-quarter of Cantonnet's cases (25·2 per cent.) the disease commenced with "lightning pains." In another group, which it is the more particular object of this brief communication to describe, the prominent symptoms include amblyopia due to optic atrophy, together with changes in the pupillary reflexes, and abolition of the knee- and ankle-jerks. Amblyopia was the first sign noted in 14 per cent. of Cantonnet's series, and in no fewer than 43·9 per cent. optic atrophy, complete or incomplete, was present. Ataxy is often conspicuous by its absence in this class of case, thereby bearing out what is sometimes known as "Benedikt's law," which is to the effect that ataxic symptoms disappear or fail to develop on the advent of optic atrophy. Cantonnet's figures with regard to this point are as follows: among 40 cases of optic atrophy there were 70·5 per cent. without ataxy, 20 per cent. with slight ataxy, and 9·5 per cent. with pronounced ataxy. This variety of juvenile tabes dorsalis appears to correspond with those familiar to every ophthalmic surgeon in adults under the name of "pre-ataxic optic atrophy." It is the class that is very likely to fall, in the first instance at any rate, under the notice of the ophthalmologist rather than of the general physician. It is important that we should be familiar with the diagnosis of such cases, if only for the purpose of getting the patients under suitable medical treatment without loss of time.

Confusion may arise between juvenile tabes dorsalis, on the one hand, and Friedreich's ataxy, on the other. In well-marked cases, however, the distinction is not difficult. The salient characteristics of Friedreich's ataxy are (1) nystagmus and (2) associated deformities, such as pes cavus and lateral curvature of the spinal column. The "lightning pains," the pupillary signs, and especially the optic atrophy of tabes dorsalis, are absent from the other affection. The bilateral atrophy of the optic discs coming on in young subjects might lead to some confusion with that peculiar abiotrophy known as "hereditary optic atrophy," which is liable to attack more than one member of a family at or about puberty. "Leber's disease," as it is sometimes called, is, however, usually preceded by optic papillitis, and even when the appearances of optic atrophy are present yet the peripheral parts of the visual field retain their functions. The defect of vision, in other words, is in the nature of a central scotoma. In my opinion, it admits of little doubt that a proportion (perhaps a large one) of those cases in children where the sole obvious findings include amblyopia and optic atrophy are in reality instances of juvenile tabes dorsalis. I cannot doubt that a more systematic investigation of the nervous system than is usually feasible in an ophthalmic out-patient room would result in a more definite diagnosis of these cases. As matters stand, however, the association in a syphilitic child of bilateral simple optic atrophy with loss of the knee-jerks, would by itself point to a provisional diagnosis of juvenile tabes dorsalis, and suggest the need for systematic investigation by a neurological physician. Another suggestive combination would be paralysis of an ocular muscle with loss of the deep reflexes in a syphilitic subject.

257

Cases of Juvenile Tabes Dorsalis.

CASE 1.—The patient, a boy, aged 13 years, came under my notice for the first time at the Evelina Hospital for Sick Children, London, on August 11th, 1899. His left eye was stated to have been blind and to have squinted outwards since the occurrence of a "fit" when he was a baby. On admission the right pupil was two millimetres and the left pupil five millimetres in transverse diameter. Neither pupil responded to light or to accommodation. The movements of the eyes were intact. R.V. = $\frac{6}{18}$ and No. 6 Jaeger; punctum proximum, 15 centimetres. L.V. = 1 no perception of light. There was incomplete optic atrophy, which was more pronounced in the left eye. The ophthalmoscopic appearances were those of so-called "simple" atrophy. The lad's face rather suggested syphilis. A small epithelial denudation lay beneath the right angle of the mouth. There were no fine deep vessels in the corneæ, such as might indicate a former attack of interstitial keratitis. But there was somewhat coarse pigmentation, together with other changes, over the lower half of the left fundus oculi, and also some choroidal disturbance about the outer side of the left optic disc. For more complete examination the patient was referred to my colleague, Dr. George Carpenter, who was kind enough to furnish me with the following report: "The only suspicious thing I can find about him is the fact that the fronts of his shins, upper third, are thicker than natural. The sharp line of the tibia is rounded, as also the anterior surface of the bone, both sides, suggests nodes." Jan. 31st, 1902: R.V. = $\frac{6}{6}$ and No. 1 Jaeger. L.V. = fingers at half a metre. The right pupil was very small (1 to 1·5 millimetres); there was no response to light but there was slight action to accommodation. The left pupil, which measured five millimetres, was devoid of action either to light or to accommodation. Right field of vision for white full—90°, 60°, 65°, and 60° in the chief four meridians. The gait was not ataxic. Romberg's sign was absent. There was no rectal or urinary trouble. The boy gave an account of having suffered intense periodical pain in the left thigh and leg at times since I last saw him. It had been much worse than usual in May, 1901, but had been better since June of that year. The knee-jerks were absent; there was no ankle clonus.

In the foregoing case the diagnosis of juvenile tabes dorsalis was come to on the following grounds: (1) the syphilitic inheritance, as attested by the facies and the osseous and choroidal changes; (2) the absence of the knee-jerks; (3) the inequality of the pupils and the Argyll Robertson phenomenon; (4) the "lightning pains"; and (5) the bilateral optic atrophy.

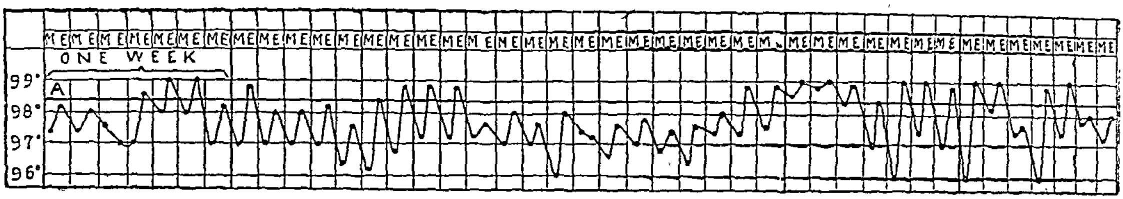
It is of some little importance to notice that on the first visit (August 11th, 1899) the lad presented paresis of accommodation as regards his right eye, since his range of accommodation was only equal to a convex lens of 6 6 D., whereas it should have equalled at his age a lens of at least 12 D. spherical. When examined some two and a half years later this symptom had disappeared. Upon the whole, then, the case may be characterised as a fairly typical example of juvenile tabes dorsalis.

---

[1] Archives d'Ophtalmologie, November, 1907.

[2] A Manual of Diseases of the Nervous System, vol. i., 1892, p. 399.

Chart 3.



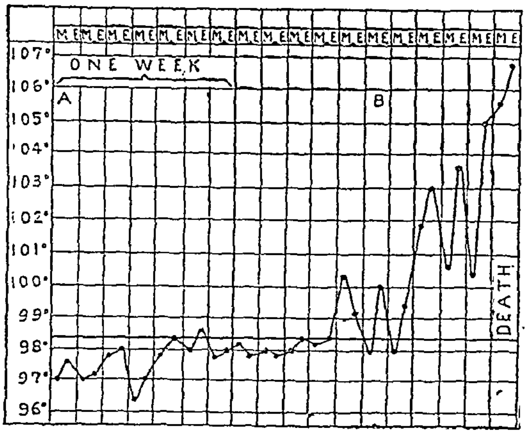
Chorea and pregnancy. Movements violent. No pyrexia. Recovery. A, On admission.

child was sickly and died in two weeks. The patient continued to have polyuria; she developed phthisis and died 19 months after the fire.

Myxœdema and Pregnancy.

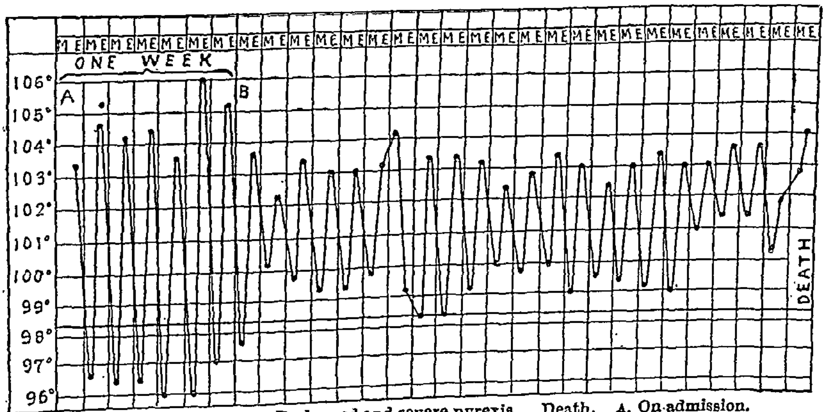
There do not seem to be many recorded cases of pregnancy in patients suffering from myxœdema. Apparently this disease is not incompatible with conception, at any rate in persons who are receiving thyroid treatment; in the one case observed by me the pregnancy had no ill-effect upon the mother's condition, and if it had not been for the accident that her pelvis was much contracted there seems to be no reason why she should not have borne children naturally. As regards the child, the main danger is that it will have a deficient thyroid gland and be a cretin, unless upon the first suspicion of this treatment with some preparation of thyroid gland is begun. The patient in question was 40 years of age and enormously stout. She had been receiving thyroid treatment for her *myxœdema for over two* years. Her pregnancy went to full term and natural labour came on, but there were great obstetrical difficulties which need not be recounted. The recuperative power of the patient, notwithstanding her myxœdema, is evidenced by the fact that she ultimately got quite well in spite of long-continued sapræmia and a "white" arm due to thrombosis of the right axillary vein.

Chart 4.



Chorea and pregnancy. Pyrexia. Death. A, On admission.
B, Accouchement forcé.

Chart 5.



Chorea and pregnancy. Prolonged and severe pyrexia. Death. A, On admission.
B, Spontaneous premature delivery.

There is no time left for the discussion of a number of other conditions that one would like to enter upon, such as the effects of pregnancy upon Graves's disease, upon ordinary goitre, upon malignant disease, upon phthisis, upon heart disease, upon chorea, and upon many other things which are full of interest. The varieties of jaundice that may occur during pregnancy might form a chapter by themselves. There is a whole group of cases in which a pregnant woman dies and nothing very abnormal is found at the post-mortem examination to account for her death. It is with regret that one is obliged to leave out these for want of time. My views have already been expressed about some of them elsewhere,[54] however; and if I may be pardoned for making one more remark it is in connexion with chorea gravidarum.

Chorea and Pregnancy.

Mr. H. T. Hicks and myself[55] have expressed the view that "'simple' chorea gravidarum is to fatal chorea gravidarum as 'simple' endocarditis is to fungating endocarditis," and that the violence of the choreic movements is not of nearly so great importance in estimating the prognosis as is the presence or absence of pyrexia. Out of 29 consecutive cases of the disease at Guy's Hospital 26 patients recovered and three died. In none of the 26 cases of recovery was there any material pyrexia, although in some of the cases the movements were very violent; in the cases that died, on the other hand, there was marked pyrexia in every instance. There will doubtless be exceptions, but as a broad rule we suggest that, provided the temperature remains almost normal, as in Chart 3, the prognosis is good even if the movements are very violent, whereas if the chart shows marked pyrexia, uninfluenced by salicylates, as in Charts 4 and 5, the prognosis is very grave, provided no obvious cause, such as pleurisy, acute tonsillitis, and the like, can be found to account for the fever. It will be very interesting to see whether other observers will find this to hold good in future cases that may come under their notice.

I thank you, Mr. President and Gentlemen, for listening so patiently to these lectures, and I will conclude by reverently recalling to your thoughts the name of their founder, Dr. Goulston.

---

[54] Hicks and French: Mitral Stenosis and Pregnancy; Transactions of the Royal Medical and Chirurgical Society, vol. xxxix., 1906, pp. 559-620. Also Guy's Hospital Reports, vol. lx., 1906.

[55] French and Hicks: Chorea Gravidarum, The Practitioner, August, 1906.

University of London: University College.—Professor E. H. Starling will give a course of eight lectures—the Mercers Company lectures on Recent Advances in Physiology—during the summer term, on Fridays at 5 P.M., commencing to-day (May 15th). The first four lectures will deal with the Physiology of Absorption from the Alimentary Canal. The last four lectures will deal with the *Physiology* of the Respiratory Movements. These lectures are open without fee to all students *of the London medical schools,* as well as to registered practitioners, on presentation of their cards.

JUVENILE TABES DORSALIS: NOTES OF FIVE CASES.

BY SYDNEY STEPHENSON, M.B., C.M. EDIN., F.R.C.S. EDIN.,
OPHTHALMIC SURGEON TO THE EVELINA HOSPITAL, THE QUEEN'S HOSPITAL FOR CHILDREN, HACKNEY ROAD, LONDON, ETC.

A REMARKABLE communication on juvenile tabes dorsalis by Dr. A. Cantonnet, of the Hôtel Dieu, Paris,[1] has once again brought this rare and interesting disease to the front. Dr. Cantonnet, after describing a case of his own in a lad aged 15 years, analysed 89 cases of juvenile tabes dorsalis which he had collected from the literature, and reached some important conclusions with regard to the malady. For example, in 57·1 per cent. of the cases there was certain evidence of inherited, and in 8·5 per cent. of syphilis acquired during the first years of life; total, 65·6 per cent. Moreover, in 13·90 per cent. of the cases personal stigmata were found in choroido-retinitis or in interstitial keratitis. The part played by syphilis in the production of the malady, therefore, is as considerable as in adult tabes dorsalis. Direct heredity was not common. In 15·30 per cent. of the cases analysed by Cantonnet one of the parents was tabetic, and in 12 per cent. one was affected with general paralysis. Juvenile tabes dorsalis, which, on the average, commences at 15 years of age, affects females in 62·6 per cent. as against males in 37·3 per cent., a striking and as yet unexplained contrast to the sex-incidence in later life, which is given by Gowers[2] as "about ten to one." The ocular symptoms of juvenile tabes dorsalis include inequality of the pupils, the Argyll Robertson phenomenon (simple or complicated), optic atrophy, paralysis of the extrinsic muscles of the eye, latent ocular ataxy, and so forth. According to Cantonnet the prognosis as regards sight in juvenile tabes dorsalis is unfavourable, seeing how common optic atrophy is. On the other hand, as regards life, it is relatively good, since among 12 patients whose history was followed for from 10 to 20 years after the beginning of the affection there was not a single death. It must not be forgotten, however, that (as in the adult) general paralysis may supervene, and, indeed, four such instances are included among the cases collected by Cantonnet.

That juvenile tabes dorsalis, like adult tabes dorsalis, may assume various clinical guises is well known. Thus, there is a group of cases mainly characterised by "lightning pains" in the legs or the arms, ataxy of the limbs, and loss or reduction of the knee- and ankle-jerks. It is to be noted that in about one-quarter of Cantonnet's cases (25·2 per cent.) the disease commenced with "lightning pains." In another group, which it is the more particular object of this brief communication to describe, the prominent symptoms include amblyopia due to optic atrophy, together with changes in the pupillary reflexes, and abolition of the knee- and ankle-jerks. Amblyopia was the first sign noted in 14 per cent. of Cantonnet's series, and in no fewer than 43·9 per cent. optic atrophy, complete or incomplete, was present. Ataxy is often conspicuous by its absence in this class of case, thereby bearing out what is sometimes known as "Benedikt's law," which is to the effect that ataxic symptoms disappear or fail to develop on the advent of optic atrophy. Cantonnet's figures with regard to this point are as follows: among 40 cases of optic atrophy there were 70·5 per cent. without ataxy, 20 per cent. with slight ataxy, and 9·5 per cent. with pronounced ataxy. This variety of juvenile tabes dorsalis appears to correspond with those familiar to every ophthalmic surgeon in adults under the name of "pre-ataxic optic atrophy." It is the class that is very likely to fall, in the first instance at any rate, under the notice of the ophthalmologist rather than of the general physician. It is important that we should be familiar with the diagnosis of such cases, if only for the purpose of getting the patients under suitable medical treatment without loss of time.

Confusion may arise between juvenile tabes dorsalis, on the one hand, and Friedreich's ataxy, on the other. In well-marked cases, however, the distinction is not difficult. The salient characteristics of Friedreich's ataxy are (1) nystagmus and (2) associated deformities, such as pes cavus and lateral curvature of the spinal column. The "lightning pains," the pupillary signs, and especially the optic atrophy of tabes dorsalis, are absent from the other affection. The bilateral atrophy of the optic discs coming on in young subjects might lead to some confusion with that peculiar abiotrophy known as "hereditary optic atrophy," which is liable to attack more than one member of a family at or about puberty. "Leber's disease," as it is sometimes called, is, however, usually preceded by optic papillitis, and even when the appearances of optic atrophy are present yet the peripheral parts of the visual field retain their functions. The defect of vision, in other words, is in the nature of a central scotoma. In my opinion, it admits of little doubt that a proportion (perhaps a large one) of those cases in children where the sole obvious findings include amblyopia and optic atrophy are in reality instances of juvenile tabes dorsalis. I cannot doubt that a more systematic investigation of the nervous system than is usually feasible in an ophthalmic out-patient room would result in a more definite diagnosis of these cases. As matters stand, however, the association in a syphilitic child of bilateral simple optic atrophy with loss of the knee-jerks, would by itself point to a provisional diagnosis of juvenile tabes dorsalis, and suggest the need for systematic investigation by a neurological physician. Another suggestive combination would be paralysis of an ocular muscle with loss of the deep reflexes in a syphilitic subject.

257

Cases of Juvenile Tabes Dorsalis.

CASE 1.—The patient, a boy, aged 13 years, came under my notice for the first time at the Evelina Hospital for Sick Children, London, on August 11th, 1899. His left eye was stated to have been blind and to have squinted outwards since the occurrence of a "fit" when he was a baby. On admission the right pupil was two millimetres and the left pupil five millimetres in transverse diameter. Neither pupil responded to light or to accommodation. The movements of the eyes were intact. R.V. = $\frac{6}{18}$ and No. 6 Jaeger; punctum proximum, 15 centimetres. L.V. = ? no perception of light. There was incomplete optic atrophy, which was more pronounced in the left eye. The ophthalmoscopic appearances were those of so-called "simple" atrophy. The lad's face rather suggested syphilis. A small epithelial denudation lay beneath the right angle of the mouth. There were no fine deep vessels in the corneæ, such as might indicate a former attack of interstitial keratitis. But there was somewhat coarse pigmentation, together with other changes, over the lower half of the left fundus oculi, and also some choroidal disturbance about the outer side of the left optic disc. For more complete examination the patient was referred to my colleague, Dr. George Carpenter, who was kind enough to furnish me with the following report: "The only suspicious thing I can find about him is the fact that the fronts of his shins, upper third, are thicker than natural. The sharp line of the tibia is rounded, as also the anterior surface of the bone, both sides, suggests nodes." Jan. 31st, 1902: R.V. = $\frac{6}{5}$ and No. 1 Jaeger. L.V. = fingers at half a metre. The right pupil was very small (1 to 1·5 millimetres); there was no response to light but there was slight action to accommodation. The left pupil, which measured five millimetres, was devoid of action either to light or to accommodation. Right field of vision for white full—90°, 60°, 65°, and 60° in the chief four meridians. The gait was not ataxic. Romberg's sign was absent. There was no rectal or urinary trouble. The boy gave an account of having suffered intense periodical pain in the left thigh and leg at times since I last saw him. It had been much worse than usual in May, 1901, but had been better since June of that year. The knee-jerks were absent; there was no ankle clonus.

In the foregoing case the diagnosis of juvenile tabes dorsalis was come to on the following grounds: (1) the syphilitic inheritance, as attested by the facies and the osseous and choroidal changes; (2) the absence of the knee-jerks; (3) the inequality of the pupils and the Argyll Robertson phenomenon; (4) the "lightning pains"; and (5) the bilateral optic atrophy.

It is of some little importance to notice that on the first visit (August 11th, 1899) the lad presented paresis of accommodation as regards his right eye, since his range of accommodation was only equal to a convex lens of 6 6 D., whereas it should have equalled at his age a lens of at least 12 D. spherical. When examined some two and a half years later this symptom had disappeared. Upon the whole, then, the case may be characterised as a fairly typical example of juvenile tabes dorsalis.

---

[1] Archives d'Ophtalmologie, November, 1907.

[2] A Manual of Diseases of the Nervous System, vol. i., 1892, p. 399.

CASE 2.—The patient, a female, aged 24 years, attended the Royal Eye Hospital, Southwark, under the care of Mr. Robert W. Doyne, on Dec. 2nd, 1904, complaining that the sight of the left eye had been failing for about one year. On admission she was found to be a healthy but somewhat stupid-looking young woman, whose facies suggested hereditary syphilis. Her jaws were ill-developed and the upper central incisor teeth, although not typical, conveyed a strong suspicion of hereditary syphilis. The patient had recently *become somewhat deaf. Knee-jerks were absent, even on* reinforcement. Romberg's sign was not present. There was no trouble as regards the bowels, but recently the patient had been compelled to urinate more frequently and to do so the moment the desire seized her. The right pupil reacted feebly to light; the left pupil was motionless. Both pupils responded to accommodation. Reflex iridoplegia (Argyll Robertson phenomenon) was therefore present. Both optic discs, especially the left one, were pale and without ophthalmoscopic evidences of antecedent neuritis. The retinal vessels were of good size. There was no peripheral choroiditis; no fine vessels could be found in the corneæ; and no ectropion uveæ was present. R.V. = $\frac{6}{9}$. L.V. = shadows only. The patient, an orphan, was the eldest of three sisters, one of whom, aged 21 years, was examined by me on Sept. 18th, 1905. The knee-jerks were present, the pupils were normal, and the optic discs were of good colour. Vision = $\frac{6}{6}$. There was slight hyperopic astigmatism. The patient was constipated and occasionally she wetted the bed at night. There were rhagades about the mouth. The third sister, aged 23 years, I had no opportunity of examining.

CASE 3.[3]—The patient, a girl, 14 years of age, attended the out-patient department of the Kensington General Hospital for the first time on Feb. 26th, 1908. The personal history of the case showed that nothing was known to be amiss with the patient's sight *until she reached the age of ten years,* when the school teacher sent to say that the child was unable to see well. She was sent to school at the age of four years and during her school life, which terminated *recently, she was a dull child. She reached, however, the* fifth school standard. Upon the complaint of bad sight she was taken on Oct. 14th, 1903, to the Royal London Ophthalmic Hospital, Moorfields, where spectacles were prescribed and these were worn for about a year without any particular benefit. On Oct. 20th, 1904, the patient attended the Royal Westminster Ophthalmic Hospital, the out-patient letter belonging to which I have inspected. Her sight was then less than $\frac{6}{60}$ with either eye and a diagnosis of "post-neuritic atrophy" was marked on the sheet. Spectacles (plus 1 D. spherical) were prescribed for reading, but, again, they gave little help. The child made three attendances at the hospital in question during January last and was treated with a mixture containing iron and strychnine. When admitted to the Kensington General Hospital, the patient was found to be a well-grown but rather dull girl who had not yet begun to menstruate. R.V. = < $\frac{6}{60}$. L.V. = < $\frac{6}{60}$. The optic discs were pallid and cupped. They presented all the appearances of so-called "simple atrophy"—that is to say, they were *clearly defined*, the markings of the lamina cribrosa could be made out, the retinal vessels were of good size, and the surrounding retina showed no morbid changes. There was no choroiditis or perivasculitis; no fine vessels could be found in the corneæ. The visual fields for white (estimated by means of a 10 millimetre white square) were very small, especially in the left eye, where the field did not exceed 10° in any direction. In the right eye the limits were: externally, 18°; internally, 15°; above, 19°; and below 5°. The pupils, five millimetres, although sluggish to light, reacted promptly and well to accommodation. In other words, a potential Argyll Robertson pupil was present. The girl showed no ataxy, but she easily tired. Romberg's sign was not present. The bowels were regular without recourse to medicine. There was an imperative desire to urinate. The right knee-jerk could not be elicited, even on reinforcement; an occasional jerk could be obtained from the left knee. The ankle-jerks were absent. There was no ankle-clonus and Babinski's sign was absent. No definite account could be got of "lightning pains."

The diagnosis in the foregoing case rests mainly upon: (1) the state of the optic discs and of the pupils; (2) the absence of one knee-jerk and the impairment of the other; and (3) the imperative desire to urinate. It is not a typical case, but on any other view than that of juvenile tabes, it is difficult to account for the bilateral optic atrophy, which, clinically at all events, is now certainly not post-neuritic in character, whatever it may once have been.

With regard to the family history, the patient's mother, aged 44 years, was in good health. Her father, aged 44 years, was said to be a strong man in rude health. The *mother had had two miscarriages.* Seven children had been born alive, of whom the patient was the third. Three of the children had died—one at the age of one year from pneumonia; one at two years of age from phthisis pulmonalis; and the third at the age of three months from bronchitis.

The case to be next described differs from those already mentioned, since amblyopia was not its prominent feature.

CASE 4.—The patient, a boy, aged 11 years, was first seen at the Kensington General Hospital on August 1st, 1906. *The personal history showed that two years previously the* lad had suffered from "rheumatics" affecting the toes, the fingers, the knees, and the elbows, and he was confined to the house on that account for two and a half months. In May, 1905, the patient had complained of the right eye, which was observed to water, to be inflamed, and "to have a white look." In the following month the other eye became slightly affected. In October, 1905, the right eye was noticed to squint inwards. In January, 1906, there was a second attack of "rheumatic" nature, less severe than the first one. No history of symptoms pointing to congenital syphilis as a baby could be obtained. The family history showed that the patient's father (33 years of age) and mother (40 years of age) were both alive. The mother had had three miscarriages and two living children, of whom the patient was the elder. The other child, a boy, died from "convulsions" when aged one month. When the patient was seen at the hospital the facies and the upper central incisors were suggestive of inherited taint. The molars were decayed. *There was some thickening of the joints of the* first and second fingers of each hand between the metacarpus and the phalanges. There were interstitial opacities, together with Hirschberg vessels, especially of the right cornea. R.V. = < $\frac{6}{60}$. L.V. = $\frac{6}{9}$ partly. The left pupil (the *only* one that could be examined satisfactorily) was three millimetres in transverse diameter, and had extremely slight action to light but fair response to accommodation (incomplete Argyll Robertson phenomenon). The left knee-jerk was absent; the right knee-jerk could be obtained only on reinforcement. There had been, and still was, some slight urinary trouble when in bed at night—"a weak bladder," so the mother said.

In the last case to be mentioned the diagnosis is not quite so clear as in those already recounted. Indeed, it is possible, I suppose, that we were dealing not with juvenile tabes dorsalis but with an instance of hereditary cerebellar ataxy.

CASE 5.—The patient, a boy, aged ten years, attended the *out-patient department* of the Queen's Hospital for Children, Hackney-road, London, on June 21st, 1906. He presented a specific facies, with flattened bridge of the nose and characteristic upper central incisors. Abundant pus could be *squeezed from the left* lacrymal sac. R.V. = $\frac{6}{24}$. L.V. = $\frac{5}{60}$. There were nystagmus, especially on lateral movement, and simple optic atrophy, especially in the left eye. The retinal vessels were small. No choroiditis or other *ocular stigmata of syphilis could be traced.* The pupils were 3·5 millimetres in diameter and active to light. An occasional response only could be obtained from the knees on repeated stimulation with reinforcement. There was no *clonus, Romberg's sign* was absent, and there were no "lightning pains." Beyond a tendency to flat-foot there were no deformities. The child was an orphan and hence no family or personal history worth mentioning could be obtained.

Welbeck-street, W.

IN recognition of his researches into paludism the Société de Pathologie Exotique of Paris has on the nomination of Professor Laveran, the President, elected Dr. Ian Macdonald, Huelva, Spain, a corresponding member. The membership is limited to 70. Dr. Macdonald is a graduate of the Universities of Edinburgh and Paris.

---

[3] This patient was shown on March 20th, 1908, before the Society for the Study of Disease in Children.

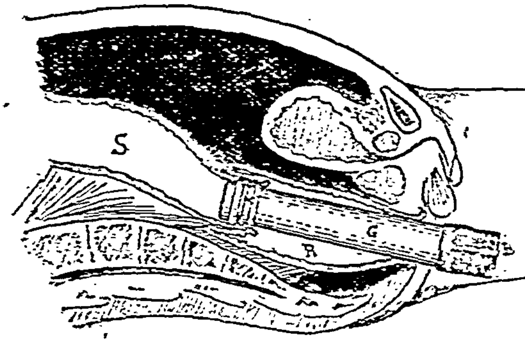
A NEW METHOD OF RESTORING THE CONTINUITY OF THE BOWEL IN CASES OF EXCISION OF A GROWTH LOW DOWN IN THE SIGMOID FLEXURE.

BY J. P. LOCKHART MUMMERY, F.R.C.S. ENG.,
HONORARY SURGEON TO KING EDWARD VII. HOSPITAL; ASSISTANT SURGEON TO ST. MARK'S HOSPITAL FOR DISEASES OF THE RECTUM AND TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

MOST surgeons have experienced the difficulty there often is in restoring the continuity of the bowel after removing the lower part of the sigmoid flexure for cancer or other forms of disease. In many cases the growth is situated in the lowest part of the sigmoid flexure, just above the recto-sigmoidal junction and behind the bladder. In such cases, after an adequate portion of bowel has been removed, it is extremely difficult to deal with the ends, as the lower stump of bowel or upper end of the rectum is situated so deep in the pelvis that any ordinary form of end-to-end anastomosis is out of the question, and the only alternatives left are either (1) to close or pack off the upper end of the rectum and establish an artificial anus with the upper end of the sigmoid flexure; or (2) to proceed to remove the whole rectum by the abdomino-perineal route, and bring the end of the sigmoid flexure (if the mesentery is long enough) down to the anus. The first of these methods has the objection that it leaves the patient with a permanent colotomy, and the second that it entails a most severe and prolonged operation, and also means the removal of a perfectly healthy rectum, which if the continuity of the gut could be restored would be quite as useful as before. This being the case, I think the following method of restoring the continuity of the bowel in such cases without removing the rectum will be found useful. I have not been able to find any record of a similar operation having previously been performed. In the case here recorded all but a few inches of the sigmoid flexure had to be removed, and consequently it would not have been possible to bring the stump to the anus, and the only alternative to what was done would have been the establishment of a permanent artificial anus.

I first saw the patient, a man, aged 53 years, with Mr. W. McMullen of Brixton, on Oct. 18th, 1907, on account of hæmorrhage from the bowel. His history was that for nearly 12 months he had been passing mucus and occasionally blood and had had attacks of pain in the abdomen. For the last few months there had been a watery discharge which had been tinged with blood on one or two occasions. About a month previously he had a profuse hæmorrhage from the bowel and this had occurred again the day before I saw him, and had been accompanied by severe pain in the abdomen lasting for about half an hour. There was no history of constipation, and except for the present illness he had always been a healthy man. On examination per rectum nothing abnormal could be felt, but very high up a large resisting mass could be felt through the anterior rectal wall. Examination of the abdomen revealed nothing abnormal. I advised an examination under an anæsthetic and for this purpose he went to St. Mark's Hospital on Oct. 28th. Under ether, by bimanual examination, and after stretching the sphincters so as to allow of two fingers being inserted into the rectum, a growth could be distinctly felt in the lower part of the sigmoid flexure. This diagnosis was confirmed by sigmoidoscopy. It was decided that the growth was freely moveable and that if the patient agreed an attempt should be made to remove it.

The operation was performed on Nov. 4th. The patient was anæsthetised by Mr. H. Bellamy Gardner with ether by the open method. The patient having been placed in the Trendelenburg position, an incision was made through the outer part of the rectal sheath on the left side of the abdomen and extending right down to the pubes. On opening the abdomen I found that the lower part of the growth extended down to within one and a half inches of the recto-sigmoidal junction and that a loop of the sigmoid flexure above the growth had become adherent to, and was involved in, it. This necessitated the removal of all but a few inches of the sigmoid flexure if the growth was to be removed. The sigmoid flexure was divided above the involved loop and the meso-sigmoid was stripped up from the posterior pelvic wall and the vessels clamped as they were divided. This procedure was rendered necessary owing to the fact that some of the glands in the meso-sigmoid were involved. As a result of the stripping up of the peritoneum the great iliac vessels were laid bare. The sigmoid flexure at the recto-sigmoidal junction was now divided an inch below the growth and the adherent loops were removed. The peritoneum was brought together by stitches over the posterior pelvic wall and all bleeding points were ligated. At this stage, owing to the rectum not having been properly emptied previously to the operation, some soiling of the pelvic peritoneum unfortunately took place. Any of the ordinary methods of end-to-end anastomoses were quite impossible owing to the depth of the wound and to the fact that there was no stump of bowel below but merely a hole in the pelvic floor. I tied a glass Keith's tube into the upper end of the sigmoid flexure and passed the free end of this tube, to the end of which a piece of large-bore rubber tubing had previously been attached, down into the rectum from the abdominal cavity. An assistant then caught this with forceps introduced per anum and drew it out of the anus. By drawing on the Keith's tube the upper end of the sigmoid flexure was invaginated into the upper end of the rectum so as to form a kind of intussusception. Two or three silk stitches were then put in to prevent the invagination from coming undone. A drainage-tube was then inserted and the abdominal wound was closed in separate layers. The operation, which had taken some time, was well borne and there was no shock.



S, Sigmoid. R, Rectum. G, Glass tube to the upper end of which the sigmoid is tied. B, Piece of rubber tube to prevent glass tube from slipping up into rectum.

The patient was kept on a diet of albumin for the first week and sufficient fat "in the form of cream" was added to the feeds to keep the stools quite fluid. The bowels were freely opened with calomel on the third day through the tube. The tube separated and came away on the seventh day. After the tube came away a fæcal fistula formed along the track of the drainage-tube and there was some discharge for a time, but the bowels continued to act by the rectum. The patient made a good recovery without any bad symptoms and although the fæcal fistula was a troublesome complication it soon began to close and in the course of a couple of weeks only allowed a little flatus occasionally to escape and at the time he left the hospital was almost healed. He had complete control over the action of the bowels and defæcation was quite normal.

It was not possible with a finger in the rectum to feel the line of union, but an examination with the sigmoidoscope before he left the hospital enabled us to see it. There was no appreciable narrowing at the point of union and beyond a faint white line nothing could be seen.

I have since heard that the slight sinus which he had when he left the hospital has quite healed up and that he is now well.

The condition produced was practically a short artificial intussusception, the two peritoneal coats being in apposition and the ends of the mucous coats close together, though not necessarily touching each other. Owing to the glass tube tied into the upper portion of the bowel no leakage could occur and the ends of the bowel had about a week in which to become united to each other before there was any possibility of any strain being thrown upon the line of union; while the tube was still in position the bowels could be freely opened without any risk of leakage and this was a very great advantage in the case of an anastomosis so near the rectum.

I think this method of restoring the continuity of the bowel after resection of the whole or part of the sigmoid flexure and when no adequate lower stump of bowel is obtainable should prove useful, as it is a great improvement upon the more usual method of establishing a permanent colotomy. And it should be quite as safe, as the condition is for all practical purposes a colotomy during the first week after the operation.

One of the chief advantages of this operation is that it enables the continuity of the bowel to be restored satisfactorily in a situation where stitching is out of the question. Another great advantage is that the bowels can be freely opened on the day after the operation if necessary, without any fear of rupture or leakage or any danger of soiling the peritoneum, as the sigmoid flexure and tube are continuous and gas-tight. The fact that apposition between the two ends of the bowel is not very accurate does not matter, in view of the fact that no strain at all is thrown upon the line of union for nearly a week after the operation owing to the presence of the glass tube. I was doubtful at first if the presence of a long glass tube in the rectum would cause severe pain or other trouble, but beyond some swelling of the anus there was no pain or other inconvenience from the presence of the tube. In the future, however, I shall use a specially made rubber tube in place of the glass one. These special tubes have a hardened grooved end and have been made for me by Messrs. Allen and Hanburys.

The formation of a fæcal fistula in this case I attribute to the fact that the nurse had not got the rectum empty and in consequence, the patient being in the Trendelenburg position, the peritoneum became soiled directly the bowel was divided.

Cavendish-place, W.

THE DIAGNOSIS OF PERFORATING AND OF CHRONIC DUODENAL ULCER.[1]

BY SIR JOHN F. H. BROADBENT, BART., M.D. OXON., F.R.C.P. LOND.,

PHYSICIAN TO OUT-PATIENTS, ST. MARY'S HOSPITAL; AND ASSISTANT PHYSICIAN TO THE LONDON FEVER HOSPITAL.

OF recent years attention has been directed to the subject of duodenal ulcer, more especially in reference to sudden perforation of the ulcer. A correct diagnosis of this condition is more commonly arrived at now than was the case some eight years ago, when in a paper by Dr. Weir[2] of New York out of 51 cases collected by him a correct diagnosis was arrived at in only 13 instances, the condition being mistaken most commonly for appendicitis or perforated gastric ulcer, and in some instances for intestinal obstruction. Since that date numerous papers have been published on this subject by various authors.

In this communication, while referring to the question of perforation, I purpose more particularly to deal with the symptoms of non-perforating ulcer and its *sequelæ*, the diagnosis of which is often a matter of considerable difficulty.

Etiology of Duodenal Ulcer.

Burns are mentioned in surgical text-books as a cause of duodenal ulcer. Holmes[3] records the occurrence of duodenal ulcer in 16 out of 165 cases of burns. Collin[4] found it present in 38 out of 297 cases collected. Perry and Shaw met with it in five cases out of 149 collected from the Guy's Hospital post-mortem records. Various explanations have been suggested for this association of duodenal ulcer with burns. The most plausible would seem to be that the congested condition of the intestines is the predisposing, and septic embolism or thrombosis of a small vessel followed by digestion of the necrotic area the determining, cause. Burns are, however, present in only a very small proportion of cases and cannot be regarded as important etiological factors.

It is noteworthy that while gastric ulcer is most frequently met with in young anæmic women, by far the greater proportion of duodenal ulcers, 79 per cent. according to Collin's statistics, occur in strong middle-aged men and are not associated with anæmia. Tobacco and alcohol, to which men are more addicted than women and which are supposed to intensify the acidity of the gastric juice, have therefore been thought to predispose to duodenal ulcer. There is certainly a history of alcoholism in a large number of cases, but so few comparatively out of the vast number of alcoholics and heavy smokers suffer from duodenal ulcer that this is scarcely an adequate explanation for its preponderance in men. Possibly the constant stooping and lifting associated with laborious occupations combined with irregular meals and coarse food may play some part in its production, for it is more frequently met with in the working classes.

Ulceration occurs most frequently in the first part of the duodenum which is exposed to the action of the acid gastric contents before they are neutralised by the alkaline flow of pancreatic juice and bile. It would seem most rational therefore to attribute duodenal ulcer to the same causes as gastric ulcer—namely, the solvent action of the hydrochloric acid secreted by the stomach on a portion of tissue the vitality of which has been lowered by traumatism or by the cutting off of its blood-supply by embolism or thrombosis. Anatomically it resembles a gastric ulcer. It may be punched out with sharp clean-cut edges, and perforate suddenly without previous warning, or the edges may be thickened and heaped up so that the ulcer presents a funnel-shaped appearance. Adhesions may form between the inflamed peritoneum at the base of the ulcer and adjoining structures, or cicatricial contraction occur with resulting narrowing of the lumen of the duodenum. Not infrequently more than one ulcer is present.

Perforation of Ulcer.

The duodenum is so situated anatomically, being deeply placed behind the right lobe of the liver and the gall-bladder, that when perforation of an ulcer takes place the contents of the gut do not as a rule escape directly into the general peritoneal cavity, as is the case in perforation of a gastric ulcer. More commonly the escaped fluid tends to travel along the posterior aspect of the hepatic flexure of the colon, thence gravitate downwards to the front of the right kidney and eventually along the outer side of the ascending colon to the right iliac fossa, setting up peritoneal inflammation in its track, which may simulate renal trouble or appendicitis. Frequently the peritonitis is localised in the first instance to the right flank, so that the symptoms of collapse are not so marked as in gastric ulcer. Moreover, the duodenum is not like the stomach, a large sac full of fluid, but is only filled as the gastric contents flow into it during digestion, and it may be practically empty at the time of perforation, so that the extravasation is limited in amount.

Symptoms of Perforation.

Turning now to the symptoms of perforation, the common story is that a strong healthy-looking man while at work, lifting a heavy weight, or perhaps shortly after a meal, is suddenly seized with violent pain in the abdomen in the right epigastric or hypochondriac region, followed immediately or after a short interval by vomiting. Symptoms of collapse may set in almost immediately if general peritonitis results, but they are less severe as a rule than in perforation of a gastric ulcer and may be ill marked or deferred for some hours or even be absent altogether. For, as has already been said, the resulting peritonitis is frequently limited to the right side of the abdomen. There will then be pain, tenderness, and rigidity in the right flank, and the tenderness may be marked not only in front but in the loin behind the right kidney. The movement of the abdomen in respiration will be restricted, more especially on the right side. The temperature will be raised to perhaps 101° or 102° F., the pulse-rate increased to 100 or 112, and the aspect of the patient will be characteristic of abdominal trouble. The prognosis for operation at this stage will be good, but if deferred too long the peritonitis may become general by the breaking down of adhesions, or failing this a subphrenic abscess may result from extravasation upwards between the right lobe of the liver and the diaphragm.

The following three cases illustrate (1) localisation of the peritonitis to the right flank; (2) general peritonitis; and (3) formation of subphrenic abscess.

CASE 1.—A man, aged 31 years, was admitted under my care while in charge of the wards to St. Mary's Hospital on August 21st, 1906, complaining of severe pain in the right hypochondriac region. He said that he had been quite well till two days before admission when he was seized while at work with severe pain in the right hypochondriac region and vomiting about one hour after his dinner. The pain became more severe next day, and the

---

[1] A paper read before the New Cross Medical Society in January, 1908.

[2] New York Medical Record, May, 1900, p. 749.

[3] System of Surgery, vol. i., p. 733.

[4] Thèse de Paris, 1896.

vomiting persisted. Previously to this attack there was no history of pain or indigestion in any form. He had been a fairly heavy drinker. On admission the face was flushed and anxious, the pulse was 100, and the temperature was 101° F. There were tenderness and rigidity in the right flank, most marked behind in the lumbar region. There was immobility of the right upper segment of the abdomen in respiration, but elsewhere the abdomen moved fairly well and there was no general tenderness or rigidity. From the sudden onset of the pain and vomiting and the evidence of some inflammatory trouble in the right upper quadrant of the abdomen I diagnosed perforation of a duodenal ulcer. From the localisation of the tenderness and rigidity to the right lumbar region I thought it was probable that the contents of the duodenum had gravitated downwards along the colon to the front of the right kidney. I therefore asked Mr. W. H. Clayton-Greene to operate and suggested that he should explore the right flank and cut down on the right kidney. Nothing was found extra-peritoneally, but on incising the peritoneum an abscess was found immediately in front of the kidney from which about two ounces of pus were evacuated. The abscess was localised and shut in by adhesions, so no attempt was made to suture the ulcer in case the breaking down of adhesions might lead to infection of the general peritoneum. A drainage-tube was inserted and the patient made a rapid and excellent recovery.

CASE 2.—A man, aged 26 years, was admitted to St. Mary's Hospital on August 24th, 1900, being sent as a case of appendicitis. He stated that he was quite well till the day before. He was then lifting a heavy weight when he was suddenly seized with severe pain in the abdomen, followed by vomiting. He was brought to the hospital on the next day. On admission he was collapsed, the face was pinched, pale, and anxious, the temperature was 99° F., the pulse was 124, and the respirations were 36. The abdomen was distended and scarcely moved in respiration, there were tenderness and some rigidity in the right epigastric region, and the legs were drawn up. The liver dulness was absent and on tapping two coins together and auscultating over the liver area there was a well-marked bell note. There was occasional hiccough but no vomiting. Mr. H. S. Collier operated at once. On opening the abdomen free gas escaped and there was recent general peritonitis. A perforated ulcer was found in the first part of the duodenum, and was sutured. The patient was, however, in an almost desperate state and he died the same evening. At the necropsy there were recent general peritonitis and a small collection of pus between the liver and the diaphragm. In the duodenum about one inch from the pylorus were three ulcers, one of which had perforated and had been sutured.

These two cases were fairly straightforward and the diagnosis did not present any great difficulty. When, however, a subphrenic abscess results from formation of adhesions and the case is not seen till some days or weeks after the perforation has taken place the diagnosis may present considerable difficulty as the following case will illustrate.

CASE 3.—A man, aged 60 years, was admitted to hospital under the care of Dr. W. B. Cheadle on March 16th, 1900. He said that he was taken ill suddenly five weeks previously with severe pain in the right side of the abdomen, followed by vomiting. He went to bed and stayed there a week, when he got up again, but a few days later was seized with severe pain in the left side of the abdomen, vomited, and had several rigors. He remained in bed and had only had liquid food for the last week, but cough and increasing dyspnœa compelled him to go to the hospital. On admission he was pale and emaciated, with an anxious expression and very short of breath. The pulse was 140, the temperature was 101·8° F., and the respirations were 34. The abdomen was distended and tympanitic and did not move freely in respiration. There were signs of effusion in the left pleural cavity. The heart was somewhat displaced; otherwise it was normal. An exploring needle was inserted below the angle of the left scapula and offensive pus was withdrawn. A diagnosis of empyema was made and he was taken to the theatre. A portion of rib was resected just below the puncture of the exploring needle, and a quantity of clear serous fluid escaped from the left pleural cavity. The patient was too ill for further exploration and was put back to bed. He died at 3 P.M. on the next day. At the necropsy a large subphrenic abscess was found bounded above by the diaphragm, below by the upper surface of the liver and stomach, and to the left by the spleen, which was riddled with small abscesses. It was shut off from the general peritoneal cavity by adhesions, but the pancreas was gangrenous and almost entirely destroyed. There were *two ulcers in the duodenum*, one of which had perforated and given rise to the subphrenic abscess.

In this case the perforation had apparently taken place five weeks before admission, when the patient was attacked with sudden pain in the right side, followed by vomiting. This was thought by his medical man to be an attack of biliary colic. The leakage had been apparently small and was circumscribed by adhesions which were broken down when the patient got about again and led to extensive suppuration and a subphrenic abscess. The most prominent symptom on admission was extreme dyspnœa, which seemed to be accounted for by extensive pleural effusion. The exploring needle when inserted must have gone through the pleura into the subphrenic abscess which pushed up the diaphragm, since offensive pus was withdrawn, and the subsequent discovery of clear fluid when operating for empyema came as a surprise. It is, however, by no means uncommon to find clear fluid in the pleural cavity in association with suppuration beneath the diaphragm and I have seen it in two other instances with subphrenic abscess and in one case with a liver abscess. I am indebted to Dr. Cheadle for permission to publish these two cases, which I had the opportunity of seeing when medical registrar.

Chronic Ulcer of the Duodenum.

The symptoms and physical signs that may be present in this affection are:—

Pain, usually felt in the right epigastric or right hypochondriac region but sometimes not localised to any particular spot, is one of the most constant symptoms and may persist on and off for some years. It may be slight and be ascribed to "indigestion," or it may be severe and described as gnawing, sharp, or griping in character. Sometimes it is paroxysmal and may be attributed to biliary colic, as in one case I saw in which attacks had persisted on and off for five years. It is not, as a rule, immediately induced or aggravated by ingestion of food, as in gastric ulcer, but may be relieved thereby, as the closure of the pylorus which ensues will temporarily arrest the flow of gastric contents into the duodenum. It may set in an hour or two after meals but frequently the patient does not notice any definite interval or even any causal relation between the taking of food and the onset of the pain. Sometimes it may be almost constant day and night as a dull aching pain with exacerbations at irregular intervals.

Vomiting, which is a comparatively rare antecedent of perforation (it was present in only 17 per cent. of the cases of acute perforation collected by Weir), is, I think, a fairly constant feature in cases of chronic duodenal ulcer. It was present at one time or other *in all the cases which I have seen.* It is not always persistent or frequent but may occur at irregular intervals without any special relation to meals. Sometimes it appears to afford relief to the pain by emptying the stomach, so that the flow into the duodenum ceases, so much so that a patient may put his finger down his throat to make himself sick. Large quantities may be vomited up at the end of the day when there is dilatation of the stomach induced by cicatrisation of the ulcer and narrowing of the duodenum.

Hæmorrhage is stated by Krauss to occur in about 33 per cent. of cases, but in 151 cases collected by Perry and Shaw it was noted in 23 only, or about 13 per cent. Both hæmatemesis and melæna may occur, but melæna is more significant when present alone, as when both are present it will be difficult to exclude gastric ulcer. My experience is that neither is very common. Hæmatemesis and melæna occurred in two and melæna alone in two out of the 12 cases on which this paper is based. In one of these the hæmorrhage recurred a year after the successful relief of all symptoms by gastro-enterostomy, so it is probable that the ulcer was really not in the duodenum itself but near the pyloric orifice of the stomach. It is possible that *melæna* may escape the notice of the patient, as he may not realise that the black, tarry motions which he passes *contain blood.*

The following case can be quoted as an instance of hæmorrhage. A man, aged 49 years, was brought to St. Mary's Hospital in July, 1905, with a history that he had fallen down in the street vomiting blood. On admission he was profoundly anæmic; the pulse was small and rapid, and after admission there was profuse melæna. He said that he had never vomited or passed blood before this attack, but for the last six years had suffered from indigestion and for the last two years had pain in the epigastrium almost constantly about an hour after meals. Nutrient enemata were administered and no food was given by the mouth for three days. A little peptonised milk was then given by the mouth but the hæmorrhage recurred, so recourse was again had to nutrients. As he was losing ground and getting weaker and thinner it was decided to perform the operation of gastro-enterostomy and on July 21st, a week after admission, this was done by Mr. Clayton-Greene. There was no thickening of the duodenum and no adhesions or any external evidence of an ulcer were to be seen at the operation, but the interior of the duodenum was not examined. He made a rapid and satisfactory recovery; there was no return of hæmorrhage and he was soon able to eat any kind of solid food without discomfort.

Dilatation of the stomach.—This I consider a symptom of considerable diagnostic importance. It may result from stenosis of the duodenum or pylorus by cicatrisation of an ulcer and there may be considerable thickening of the wall of the duodenum or scarring and puckering of its peritoneal surface, and in two cases of this nature I have observed well-marked peristalsis of the stomach wall. In some cases there are adhesions between the duodenum and adjacent structures or cicatricial bands which may give rise to obstruction, but in others in which dilatation of the stomach is present no obvious cause can be made out at the operation for gastro-enterostomy when this is performed. Of course the interior of the duodenum is not investigated in those cases, and it is possible that some narrowing of the lumen is present. In two fatal cases, however, I have found marked dilatation of the stomach in which at the necropsy no stenosis of the duodenum could be made out. In one of these three ulcers were present. It seems possible, therefore, that the dilatation of the stomach may be gradually brought about by reflex spasm of the pylorus, due to a reflex inhibition of its dilating mechanism, when the gastric contents begin to flow over the ulcerated surface. If so, this would explain the presence of dilatation of the stomach in those cases in which at the operation no thickening of the duodenum or definite evidence of obstruction can be made out. Peristalsis of the stomach wall would only be expected to occur when definite obstruction had been produced by cicatricial contraction of an ulcer or adhesions. In the two cases in which I have observed it well-marked thickening and scarring of the duodenum were present.

The following cases illustrate dilatation of the stomach in association with chronic duodenal ulcer.

CASE 1.—A man, aged 48 years, went to my out-patient department at St. Mary's Hospital in August, 1907, complaining of vomiting large quantities of food, chiefly at night. There had been no pain after meals recently, but some time before he said he had attacks of "indigestion." There was no history of melæna or hæmatemesis. He had not been a heavy drinker but had taken his two or three pints of beer daily. There was great dilatation of the stomach, which extended well below the umbilicus, as ascertained by the combined succussion and auscultation method. He was admitted to the hospital on Sept. 7th and when in bed well-marked peristalsis of the stomach from left to right was observed on several occasions. This was well brought out by the administration of bicarbonate of sodium and tartaric acid. On washing out the stomach and testing its capacity it was found to hold 102 ounces. No tumour could be felt in the region of the pylorus and there was no tenderness in that region. The symptoms and physical signs clearly pointed to dilatation of the stomach from obstruction at or just beyond the pylorus, so I decided on the operation of gastro-enterostomy for its relief. Mr. Clayton-Greene performed the operation on Sept. 19th. At the operation the stomach was seen to be enormously dilated and its walls were hypertrophied. There was no thickening of the pylorus but there were numerous adhesions in the neighbourhood of the duodenum and scarring of its peritoneal wall. The patient subsequently made an uninterrupted recovery. There was no more vomiting and he rapidly gained weight and went out feeling quite well.

In this case there was no evidence of definite symptoms pointing to duodenal ulcer except that of some "indigestion" a long time before, but from what was seen at the operation it was clear that cicatrisation of a duodenal ulcer and inflammation of its peritoneal surface were the cause of the dilatation of the stomach to which the symptoms pointed when he came for treatment.

The next three cases are very similar to the above.

CASE 2.—A man, aged 33 years, was admitted to St. Mary's Hospital in September, 1907, while I had charge of the wards. He said that he had had attacks of pain in the right epigastric region and vomiting on and off at intervals for the last five years, sometimes being free from them over a month at a time. Vomiting relieved the pain but neither the onset of vomiting nor the pain bore any direct relation to ingestion of food. There was no history of melæna or hæmatemesis. He was not addicted to alcohol. The stomach was very dilated, a succussion splash being audible below the umbilicus. There was no tumour to be felt at the pylorus and peristalsis was never observed. No tender area could be detected on palpation. A test-meal showed the presence of free HCl, the acidity being estimated at 0·024 per cent. of free HCl by Dr. W. H. Willcox. On Nov. 8th Mr. V. W. Low performed the operation of gastro-enterostomy. There were no thickening of the pylorus or duodenum and no scarring or puckering and only a few adhesions were found in the neighbourhood of the latter. The patient had no return of the pain or vomiting and made a rapid recovery.

In this case no obvious obstruction could be made out in the duodenum at the operation and little evidence of ulcer from the exterior but there could be no doubt that a duodenal ulcer was the cause of the symptoms and of the gastric dilatation.

CASE 3.—Three years ago I was asked to see in consultation a man, aged 40 years, who for six years had suffered from "dyspepsia" and who during the last six months had had severe pain in the right epigastric and hypochondriac region usually about half an hour after meals. During the last three months he had vomited enormous quantities at intervals, chiefly at night. He was very emaciated and had rapidly lost flesh of late. There was no history of melæna or hæmatemesis. On examination I found enormous dilatation of the stomach. There was no tumour in the pyloric region but an area of tenderness on palpation under the right costal margin. I advised the operation of gastro-enterostomy which was successfully performed. There were adhesions and considerable thickening of the duodenum. He made an excellent recovery and in two months gained a stone in weight and is now in excellent health and has had no return of symptoms.

CASE 4.—In October, 1906, I was asked to see a lady, aged about 35 years, who for three months had had pain in the left epigastrium and irregular attacks of vomiting of large quantities of food. Four years previously she had had hæmatemesis and melæna and since then she had had at intervals attacks of pain and vomiting. On examination the stomach was found to be enormously dilated and on several occasions well-marked peristalsis of the stomach wall was observed. I concluded that the dilatation was due to obstruction in the duodenum from a cicatrised ulcer and advised the operation of gastro-enterostomy, which was successfully performed. This I did not see, but I was informed after that there were a mass of adhesions in the neighbourhood of, and considerable thickening of, the duodenum, giving rise to considerable obstruction. She made a good recovery.

The following case illustrates the chronicity of the affection and the tendency to recurrence even when the symptoms have been in abeyance for some considerable period of time.

CASE 5.—A man, aged 52 years, went to my out-patient department at St. Mary's Hospital on Jan. 3rd, 1908, complaining of pain in the right epigastric region and attacks of vomiting. His history was as follows. Ten years ago he was first troubled with "indigestion," pain in the epigastric region some two or three hours after meals, with occasional attacks of vomiting. This persisted on and off for six years when he had a severe attack of melæna. As a result of careful dieting, complete rest, and change of air his symptoms completely disappeared and he enjoyed good health for about six months. The pain and vomiting then recurred and had persisted on and off for the last four years. Latterly the pain had become more or less constant and the vomiting, instead of setting in a few hours after meals, had occurred chiefly at night and was more profuse. He had been losing flesh rapidly of late and dieting failed to relieve the symptoms. He was a strong, well-made man but very poorly nourished and was strictly temperate. On examination the stomach was found to be greatly dilated and there was some tenderness on deep pressure just below the seventh right costal cartilage. No tumour could be felt. From the history of the case, attacks of pain and vomiting extending over nearly ten years, melæna, and symptoms which now pointed to some obstruction at or beyond the pylorus, with pain in the right hypochondriac region, I diagnosed chronic duodenal ulcer, partial cicatrisation of which was giving rise to stenosis of the duodenum and consequent dilatation of the stomach. I therefore advised the operation of gastro-jejunostomy which Mr. Low successfully performed on Jan. 10th. At the operation a few adhesions were found in the neighbourhood of the duodenum and a small hard cicatrix was felt on the anterior aspect of the first part of the duodenum. There was no recurrence of vomiting after the operation and he is now free from pain and able to take food without any pain or discomfort.

Diagnosis.—An accurate diagnosis can usually be made by careful consideration of the history of the case and the chronic character of the symptoms rather than by physical signs, which are often very indefinite. In a typical case the patient will be a middle-aged man with a history that he has suffered on and off for some years with pain and vomiting. He may tell you that at first the pain usually set in from two to three hours after meals and was sometimes temporarily relieved by taking food or by vomiting. Vomiting sometimes accompanied the pain but was not so constant or persistent a symptom. These symptoms were not so severe as to compel him to leave off work and as a result of careful dieting they may have been in abeyance for weeks at a time, but they tended to recur on resuming ordinary diet. He may have sought advice because they have been increasing in severity and the pain has become more or less constant and is not relieved by dieting. Possibly neither the pain nor vomiting now has any direct relation to ingestion of food, and there may be no definite area of tenderness on palpation of the abdomen. Here the diagnosis must be based mainly on careful consideration of the history and chronicity of the symptoms.

A severe attack of melæna or of melæna and hæmatemesis may have brought matters to a crisis. In this event there can be little difficulty in arriving at a correct diagnosis. Again, the patient may say that recently the symptoms have altered in character, that the pain is less or is now griping in character instead of sharp and gnawing or has disappeared, and that the vomiting now comes on at night or every two or three days and a very large quantity is brought up each time. Examination will reveal considerable dilatation of the stomach and it may be that on careful inspection peristalsis of the stomach wall is observed. The presence of these physical signs with a history such as that given above will leave no doubt as to the correct diagnosis. If the ulcer be cicatrised completely there will be no pain and the previous symptoms may have been almost forgotten, but if there be only partial cicatrisation or fresh ulcers have succeeded one already cicatrised, pain will be present and perhaps deep-seated tenderness on palpation below the seventh costal cartilage.

Differential diagnosis.—The seat and character of the pain, the indefinite relation of both pain and vomiting when this occurs to ingestion of food, and the absence of hæmatemesis will, as a rule, serve to distinguish duodenal from gastric ulcer. Hæmatemesis and melæna may occur but the former is comparatively rare. Melæna in association with attacks of pain in the right hypochondriac region will be very significant. A history of chronic indigestion occurring after middle life may suggest malignant disease of the stomach, but the chronicity and intermittent character of the symptoms which may have lasted some years, and absence of severe emaciation and cachexia, will usually enable an accurate diagnosis to be made. In doubtful cases the evidence afforded by a test meal will be of great value, as in duodenal ulcer there is often excess and seldom absence of free hydrochloric acid. When gastric dilatation is present and peristalsis shows evidence of obstruction at or beyond the pylorus, the question of new growth of the pylorus must be considered. The absence of any tumour in the pyloric region, and the history of attacks of vomiting and pain on and off for some months or years in the right epigastric or hypochondriac region will usually enable a diagnosis to be made between these two affections. It will be advisable in all cases before considering operation to remember to exclude the possibility of gastric crises from tabes dorsalis.

Treatment.—There can be no question that the only satisfactory method of treatment as soon as a diagnosis is arrived at is by the operation of gastro-jejunostomy. This, of course, short-circuits the duodenum and usually all symptoms subside rapidly after the operation; the result is, as a rule, most satisfactory. Rectal feeding for some days and subsequent careful dieting may give relief and apparently are successful in some cases, but it must be remembered that there is a tendency for the ulcer to recur and that even when the ulcer does heal satisfactorily cicatricial contraction may give rise to obstruction and lead to gastric dilatation for which the same operation will eventually be required.

Seymour-street, W.

A METHOD OF ADMINISTERING SOLIDS IN CASES OF GASTROSTOMY.

BY A. ERNEST MAYLARD, M.B., B.S. LOND.,
SURGEON TO THE VICTORIA INFIRMARY, GLASGOW.

THE desirability of administering as much nutritious food as possible and the difficulty usually of doing so has led me to devise a method by which practically solid food can be introduced through the artificial fistula.

The operation employed is that known as the "Kader-Senn." It consists in bringing out a cone of the cardiac end of the stomach through a small parietal wound. The base of the cone is first fixed to the abdominal parietes by four silkworm gut stitches which in the course of a few days are withdrawn. A purse-string chromic gut suture is made to transfix the sero-muscular tunic of the stomach near the base of the cone. An opening is made at the apex of the cone and into this is inserted a glass tube (see Fig. 2) which has near its end two perforations to enable the tube and the stomach to be transfixed by a chromic gut suture. By then pushing on the tube the cone becomes invaginated and is finally secured by tightening the purse-string suture. The details of the operation will perhaps be better understood by a glance at the diagrammatic illustration (Fig. 1).

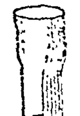


FIG. 1.—Diagrammatic representation of the operation of gastrostomy by the "Kader-Senn" method. *a*, Cone of stomach drawn out through an incision in the abdominal parietes (*f*. *b*, Gastrostomy glass tube with apertures at *c* for fixation by suture of the tube into the opening at the apex of the gastric cone. *d*, Purse-string suture for tightening after invagination of tube and cone. *e*, *e*, Two of the four silkworm gut sutures used for fixing the base of the cone to the abdominal parietes.

I have performed this particular operation 16 times with one death. The death occurred in a patient who was in an advanced emaciated condition and on the verge of dying. The shortest times in which I have performed the operation have been six minutes with the administration of an anæsthetic; and 12 minutes when only local anæsthesia to the skin was employed. In the former case I had the advantage of the able assistance of my colleagues, Dr. Farquhar Macrae and Dr. David Lamb, the infirmary anæsthetist. The patient was an old man, aged 79 years. A tight, probably malignant, stricture existed high up in the œsophagus, and in attempting to take fluids they trickled over into the larynx and caused violent attacks of coughing. He was much enfeebled and suffered from chronic bronchitis. Speed in operating was therefore of some moment. 15 minutes may be taken as a reasonable time for the performance of the operation. It need hardly be said that a method that lends itself to rapidity of performance is of no small consideration in the class of patients for which gastrostomy has most frequently to be employed.

The glass tube used (Fig. 2) measures 9 millimetres in its internal diameter and 12·5 millimetres in its external. This is sufficiently large to admit of the free introduction of solids held in fluid suspension and can be used either with or without the syringe. When the syringe is used alone the nozzle, which is about 9 centimetres long and of the same calibre as the tube (see Fig. 3), is introduced directly into the stomach. The food is then poured into the syringe, the piston is introduced, and gentle intermittent pressure is exercised to force in the food. When there is difficulty in introducing the nozzle of the syringe a vulcanite guide is inserted into the gastrostomy tube which serves to facilitate its passage and admit of the exercise of some pressure. The syringe holds about six ounces, and as a "feed" should consist of from 10 to 15 ounces it is necessary to refill the syringe. This is done by first withdrawing the cork and then inserting a knitting-needle by the side of the rubber ring. By pressing the former a little to one side and gently withdrawing the piston air gets in and prevents any backward suction of that which has already been introduced into the stomach.[1] After the withdrawal of the nozzle of the syringe or of the gastrostomy tube—whichever may have been used for the introduction of the food—a small plug is held over the orifice of the fistula for a minute or two, when it will be found that no leakage ensues.

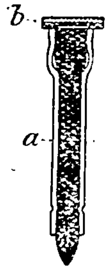


Fig 2

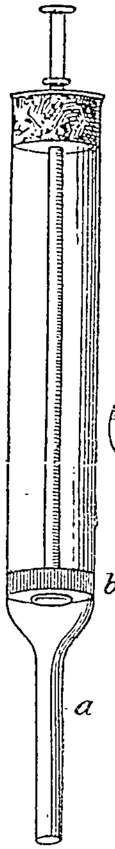


Fig 3

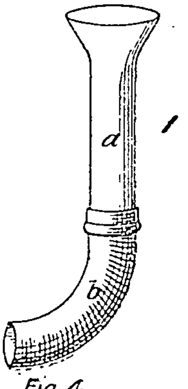


Fig 4

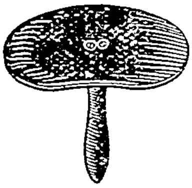


Fig. 5

FIG. 2.—Gastrostomy glass tube, *a*; with vulcanite guide, *b*.

FIG. 3.—Gastrostomy feeding syringe with cork above through which the piston rod runs. *b*, Rubber plug of piston rod. *a*, Nozzle of feeding syringe for direct insertion into the stomach or for use with the gastrostomy tube.

FIG. 4.—Glass filler, *a*, with rubber tube, *b*, for use with gastrostomy tube when syringe is not employed.

FIG. 5.—Vulcanite plug for use between periods of feeding and for the maintenance of a patent fistula.

In cases where the syringe is not used a considerable amount of solids, in, however, a more fluid consistency, can be introduced by means of a filler attached by a rubber tube to the gastrostomy tube (see Fig. 4). To insure the fistula being kept sufficiently patent for the introduction of the glass tube or syringe nozzle a specially shaped vulcanite plug (see Fig. 5) is employed. This is always worn between the periods of feeding.

The best consistency of the food for feeding is four ounces of finely divided solid to six ounces of fluid. Both constituents may be varied. One of the most nutritious combinations is chicken and milk. The point of paramount importance is the fine division of the solid, so that when being forced through the narrowed nozzle it does not pack and jam the canal.

The complete set of the requisites for the operation and after-use have been made for me by Messrs. Baird Brothers, 97, Bath-street, Glasgow.

Glasgow.

THE ELECTRICAL TREATMENT OF ATONIC CONDITIONS OF THE DIGESTIVE SYSTEM.[1]

BY REGINALD MORTON, M.D. TORONTO,
F.R.C.S. EDIN., &c.,
MEDICAL OFFICER IN CHARGE OF THE ELECTRICAL DEPARTMENT OF THE LONDON HOSPITAL.

THE frequency with which atonic disorders of the digestive system are met with in medical practice makes the question of their treatment one of almost universal interest. Like all other fairly common disorders the list of suggested remedies is large and each one has its devoted advocates. It is not the purpose of this paper to discuss treatment by drugs and diet and their respective merits—these are more or less generally known and need not detain us, except to point out that the question of diet is all-important in every case, and to remind you that in the majority of cases the action of electricity is not so rapid that you can afford to discontinue drugs—e.g., laxatives—entirely and at once. Cases of atonic dyspepsia or constipation due to atony of the colon have always been under a more or less prolonged course of treatment and whatever electrical method is employed I always insist on the laxatives, &c., being continued as before. They are to be reduced in amount gradually as improvement sets in. For convenience I divide cases of atonic dyspepsia and constipation into two main classes: (1) those due to defective innervation—neurosis; and (2) those of true atony of the muscular coat of the digestive canal.

In the first class the muscular coat is presumably not at fault, and it is to the nervous system that we must direct our energies. For this purpose almost any form of electricity may be tried and with equally successful results, preference being given, in my opinion, to the more stimulating forms such as the induction coil currents and the sinusoidal current from the main or from a machine made for the purpose where the alternating current is not available. In many of these cases the moral effect is one of some importance, and for this reason good results are sometimes obtained from static electricity or high-frequency currents which may be more or less locally applied. The constant current alone I do not consider to be much good, but in conjunction with the coil—the de Watteville current, as it is sometimes called—it seems to be a very useful method and one that has achieved good results in the hands of some workers. Mangelsdorf[2] also claims to have obtained good results in the more severe cases of true atony of the muscular coat, but my experience does not bear this out. Provided one can remove any mental or psychological element that may be present in cases of this class the treatment becomes a comparatively simple matter, and one or other of the electrical methods mentioned will nearly always bring about a cure.

When we come to deal with cases of the second class we are brought up against an entirely different problem and one that will tax our resources to the utmost, as indeed it probably has that of the medical man who refers the case to us. Here we have to deal with an organ the muscular coat of which has undergone atonic changes even to an extent almost amounting to a degeneration. Regulation of diet has had little effect and drugs afford but temporary relief. Massage will have been tried with but slight success for reasons which are more or less obvious. At the same time, I *do not* mean to say that these methods are by any means useless—rather that we *should use electricity as* an additional agent in many cases, and, as I have already said, only to reduce the amount of drugs taken as *the case shows signs* of undoubted improvement.

---

[1] The syringes are now made with a small aperture at the lowest part which can be opened or closed as required, thus dispensing with the needle.

[1] A paper read before the Electro-Therapeutical Section of the Royal Society of Medicine on April 24th, 1908.

[2] Archives of Roentgen Ray, April, 1907.

In my opinion the person who sets out to treat a severe case of this kind with electricity only will most likely be disappointed chiefly on account of the slowness with which the improvement is brought about. From the very nature of the disease it is unreasonable to expect that any remedy can bring about a rapid cure. Having a case of this kind to treat the question arises, What are we going to do for it in the way of electrical applications? Every form of this agent has been tried at one time or another, and so long as this was confined to the more ordinary forms, such as constant and faradic currents, no very great success has been attained; so little, indeed, that until quite recently most writers on gastro-intestinal disorders ignore electricity altogether when discussing modes of treatment. That this should be so is not surprising. It is difficult to see how the use of the constant current could do very much; it is insufficiently stimulating, and its application in sufficiently large currents to influence materially the muscular coat of the digestive organs is attended by the risk of severe burns due to the deposition of electrolytic products in the skin.

Then take the induction-coil currents—primary or secondary—as ordinarily used I consider the rate of interruption much too fast to benefit the muscular tissue directly. In the case of degeneration in a voluntary muscle, as is well known, no reaction takes place when ordinary faradic current is applied unless the interrupter is set to work very slowly—the muscle can also be made to contract rhythmically to the constant current if it is made and broken equally slowly, the greater the degree of degeneration the less frequent must be the *interruptions if the* muscle is to respond to each. In unstriped muscle we have normally, to electrical impulses, a prolonged latent period and a prolonged period of contraction. In a state of atony these are increased and the condition, in my opinion, *comes to* resemble somewhat that of a voluntary muscle in a state of degeneration. Hence I consider ordinary faradic current to be unsuitable, both from the rapidity of its interruptions and the small density of current that could be obtained or used if obtainable. We must not forget that we can reach the intestinal muscle only through the more superficial voluntary muscles of the abdominal walls, which are necessarily thrown into contraction, and this latter becomes unbearable to the patient if the current density is at all high. The same objections apply to the sinusoidal current at the frequencies ordinarily supplied —from 40 to 100 cycles per second. While it is possible to set the interrupter of an induction coil to work very slowly even then only a comparatively small current density can be employed owing to the painful nature of the contractions produced when this is large. This is, of course, mainly due to the inherent qualities of the current itself, notably to the very sudden rise of potential at each *break* of the primary circuit.

From what has been said it will be seen that what we *require is a current* of large magnitude, in view of the large mass of the abdominal contents to be treated, and one that will vary this magnitude sufficiently rapidly to cause the muscular coat of the intestine to contract and yet slowly enough to allow a *contraction to be* completed and relaxed before another is induced. It must also be practically free from the deposition of electrolytic products in the skin to any possibly *harmful* degree. These conditions are met very completely by a sinusoidal current of very low *frequency*.

In a *paper* on this subject which it was my privilege to read before the Electro-Therapeutical Section of the annual meeting of *the British Medical* Association at Exeter last July, I then referred to what I called, for the want of a better term, the "*periodic time*" of a muscle; and by this I mean the length of *time any* given muscle requires in passing through the various *phases which follow* the application of an electrical impulse. These phases are, (*a*) the latent period; (*b*) the *period of contraction*; and (*c*) the period of relaxation; the sum of the three constituting what I have termed the "periodic time" of the muscle. I feel sure that this is a matter that will become increasingly important in the future both as regards diagnosis and *treatment*. Its practical application here lies in the fact that it gives us a clue as to the proper frequency to be employed in any given case. The time interval between the cycles of the current should *not exceed the* "periodic time" of the muscle. While it is not possible to determine the "periodic time" of the muscular coat of our patient's intestine by actual experiment, it is found as a matter of practical experience with degeneration in a superficial voluntary muscle that it is only in the more severe cases that the muscle makes no attempt to keep time with a current having a frequency of one cycle per second, and this frequency I may say is very *suitable for* the great majority of cases. I have been frequently asked if a three-phase current is necessary or has any advantages over a single-phase current. So long as the frequency is sufficiently low it matters little which is used.

The method of application is practically the same for all cases. I use three electrodes—one on each side of the lumbar spine and the third on the anterior abdominal wall—the epigastrium if the stomach is the part *chiefly at fault*, or over the course of the colon if the case is one of constipation, commencing at the cæcum and working gradually around in a clockwise direction. If the rectum is at fault a rectal electrode must be used, but not a bare metal one. It must be covered with membrane and water-jacketed so to speak. A certain amount of electrolytic products are set free owing to the rapid diffusion of the current and these become objectionable when bare metal is placed in contact with living tissues. If a single-phase current is being used the two posterior electrodes are joined to the same terminal. With a three-phase current the three electrodes are attached one to each of the three terminals of the apparatus. The duration of the applications is at first from 10 to 15 minutes, and the current just enough to cause gentle contraction of the abdominal muscles. The length of the application and the strength of the current are both increased on subsequent occasions, so that by the fourth or fifth the duration is 30 minutes and the current strength sufficient to cause strong contractions of the muscles of the anterior abdominal wall. This must be continued three times a week for a month or six weeks or more.

I will not take up your time by relating the details of the several cases which I have treated. There is a great sameness among them all, and I can only say that in all those in which the treatment has been regularly attended to for a sufficient time great improvement has taken place in the general health and in the local condition, so much so that the patients have in most cases voluntarily assured me that it had been well worth the time and trouble which it had entailed.

The great difficulty is to get the patients to come regularly for a sufficiently long time. Very often patients are only too ready to throw it up for some trivial excuse. This and the length of time required are the chief drawbacks to the method. But as regards time I ask, What other method can do better?

Before closing I should like to say something about the best means of generating the current I am advocating. Personally I use a large motor-dynamo which has collecting rings connected by the commutator on the motor side and allows one to take off a three-phase alternating current, and the armature is made to revolve slowly by means of a resistance in series, the field magnets being maintained at full magnetism. A large machine is preferable to a small one, however the latter may be arranged. The larger one is not so easily disturbed by small fluctuations in the current supplied to, or taken from, its armature, while its weight, bearings, and friction of brushes *provide* a *light but steady* mechanical load which is a great advantage. Machines of small size and made to run slowly by means of a *friction brake* have been in use but have not proved satisfactory in practice owing to their tending to rotate unevenly. Mr. Schall *has* got out a motor of comparatively small size, arranged with collecting rings and supplies the primaries of three sledge *coils. The* patient is put in circuit with the secondaries of these sledge coils. With my large machine I use the same method of regulation as it seems to be the best; the regulation is very fine and the patient is effectually cut off from the main current so that there is no danger of his getting shocks through touching anything connected to earth.

While this paper has for its main object the treatment of atonic conditions of the digestive system I would like to point out before I finish that this slow sinusoidal current will be found invaluable in the treatment of every condition where atony or degeneration of muscular tissue is the chief factor. Furthermore, having at hand an alternating or pulsating current of a frequency which is variable from one cycle in two seconds to, say, ten per second; and a means of ascertaining the frequency at any given moment I foresee a method of expressing the degrees of degeneration in muscular tissue in a numerical form, and according to the highest number of impulses per second or per minute to which the muscle will rhythmically respond we shall be able to have a better idea of the degree of degeneration existing in different cases and the progress of any given case by taking its highest frequency number from time to time. I hope to have something to say on this point at a future date.

Queen Anne-street, W.

NOTE ON

TWO CASES OF CHRONIC DYSENTERY TREATED WITH FORSTER'S ANTI-DYSENTERIC VACCINE.

BY E. A. R. NEWMAN, M.D. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.,

MAJOR, INDIAN MEDICAL SERVICE; CIVIL SURGEON, RANCHI, INDIA.

THE following notes will, I think, be of interest to readers of THE LANCET. I was induced to give the method (vaccine-therapy) a trial after a perusal of a paper by Captain W. H. C. Forster, I.M.S.,[1] who kindly supplied me with vaccine and directions for use.

CASE 1.—The patient was a European woman, aged 28 years. She had resided for 11 years in India and had suffered from four acute attacks of dysentery during the first five years of that period. For 10 months she had been laid up with chronic dysentery, recurring subacute attacks alternating with short periods of constipation, and the evacuation of inspissated mucus with the stools. During this period she had been totally incapacitated, unable to walk, and only allowed out in a rickshaw. Subsequent improvement was followed by another acute attack within a year, which was succeeded by further manifestations for five or six months, until she went home to Scotland in April, 1905, about eight and a half years after coming out to India. For six months, while living in the North of Scotland, she had been quite free from any dysenteric symptoms. On her return to India at the end of 1905 she had had a sudden and very severe attack of acute dysentery which nearly proved fatal. Since then she had practically continuously suffered from looseness of the bowels with mucus contantly present in the stools. The patient came under my observation in April, 1906. By dint of a most careful diet and by leading a very quiet life she managed to get along with occasional relapses lasting for a few days. The least over-exertion, indiscretion of diet, or exposure to damp brought on mucoid diarrhœa with aching pain in the left side. During the rains of the year 1906 she showed some symptoms of sprue, which cleared up in time to prevent the necessity of going home as advised. She was treated from time to time with salines, castor-oil emulsion, bismuth, bael in season, and liquor hydrargyri perchloridi, the last-named drug seeming to be rather more useful than anything. The first injection was made into the left flank on July 30th, 1907. The evening temperature on that date was 99° F. and there was some neuralgic headache. She felt exactly as if an attack of dysentery were coming on (the patient volunteered this statement). Locally, considerable pain was felt in the site of injection, radiating round the waist and down into the left groin. In from 24 to 36 hours this subsided, leaving only a little local tenderness at the site of puncture. In three days' time the patient felt decidedly better and the looseness of the bowels had ceased. The second injection was made into the right flank on August 13th. There was slight pain for two or three hours only. The patient got wet through to the skin on the same evening when the temperature was 99°. Neuralgic headache and general aches and pains were present. Looseness of the bowels persisted for seven days and then the patient felt much better, the motions becoming formed once more. No treatment beyond the injection was employed. The third and last injection was made into the left flank on Sept. 3rd. There was slight discomfort at the site of puncture only. The bowels were loose for two days. Steady improvement now commenced, all traces of mucus disappearing from the stools, constipation temporarily replacing the daily or bidiurnal soft motion. Within two months the patient was enjoying such a feeling of health and *bienêtre* as she had not experienced for years. The appetite was good and she could eat anything in reason—potatoes, for instance, which formerly would have brought on diarrhœa at once. The patient's weight six weeks after the last injection was 8½ stones, the highest ever reached. The weight had not been taken before the treatment was begun, but certainly at least a stone had been gained and probably more. The patient has since maintained good health and can undertake exertion which previously was impossible without ill effects. A concrete instance of this is that she recently attended a dance till 4 A.M. without suffering in consequence.

CASE 2.—The patient, a native girl, aged 18 years, was admitted to hospital in September, 1907, with a history of chronic looseness of the bowels and mucoid stools, occasionally mixed with blood, for a period of one year. On admission she was anæmic and debilitated, with œdema of the feet and ankles. The symptoms persisted in spite of treatment and a milk diet. The first injection was made on Sept. 29th, about two weeks after admission. The evening temperature was 102° F. and there was little local discomfort. Rapid improvement in bowel symptoms followed. The motions became formed in a few days and blood and mucus disappeared from the stools. The second injection was made in two weeks' time. The constitutional and local discomfort were trifling. Improvement was maintained though the general health was still poor for about a month, when a slight relapse was experienced which probably was induced by eating uncooked vegetables. A third injection was made with satisfactory results. The patient had no return of dysenteric symptoms before she left the hospital at her own request some five weeks after the last injection.

Case 2 was typical of the condition of many patients who come for treatment, improve temporarily with rest and a suitable diet, &c., and relapse on discharge. This patient may be regarded as being in a fair way to permanent recovery, though the claim to a permanent cure would not be warranted by the limited time during which she was kept under observation.

Case 1 is as typical an instance of chronic relapsing dysentery as is likely to be met with. The recurring acute attacks finally lapsing into a pronounced condition of chronic infection, temporary improvement with another acute attack, followed by a further period of diarrhœa, apparent cure while living in a cold climate, to be again succeeded by another acute attack and all the old train of symptoms on returning to India, all point to an infection which was usually active and occasionally dormant for a period of between ten and 11 years. The results of vaccine-therapy in this case seem little short of phenomenal; in three months from the date of the first injection the patient was a different being. The actual discomfort after injection varies somewhat, possibly, I think, with the strain of vaccine used, and subsequent injections certainly seem from these and other instances in which I have had experience of it to be less painful than the first one. The occurrence of diarrhœa persisting for seven days after the second injection appears not unlikely to have been due to exposure to wet and cold during the temporary negative phase of opsonic power which would follow on the injection made a few hours previously, according to the teaching of Sir A. E. Wright.

I am induced to publish this note as I feel convinced from the experience of this case alone that we have in vaccine-therapy with Forster's anti-dysenteric vaccine a remedy which in suitable cases may be of the utmost value in combating an extraordinarily troublesome and obstinate complaint, responsible for no end of ill-health and possibly permanent invalidism amongst Anglo-Indians. I look forward to the day—I hope now not far distant—when the vaccine will be available for use by all practitioners, in India at all events. I believe that it will take the same place in practical therapeutics of dysentery that anti-diphtheritic serum now (though based on entirely different principles) occupies in the treatment of diphtheria. If this view is not Utopian—and I do not think it so—it will be impossible to estimate the importance to the State in reducing invalidism from dysentery and to the community at large in the prevention of suffering from this disease as a direct result of Captain Forster's labours and researches.

Ranchi, Bengal.

---

[1] Indian Medical Gazette, May, 1907.

NOTE ON A CASE OF FUNCTIONAL PARAPLEGIA WITH ASSOCIATED PARALYSIS OF THE BLADDER.

BY ÆNEAS ROSE, M.A., M.B., CH.B. EDIN.,
LATE HOUSE PHYSICIAN, NORTH-EASTERN HOSPITAL FOR CHILDREN, LONDON.

THE patient, a female, aged 22 years, a domestic servant in the household of a medical man, was admitted into the Grantown-on Spey Cottage Hospital on August 14th, 1907, with a history of violent hysterical attacks occurring at frequent intervals for several weeks previously, retention of urine for two days, and complete inability to walk. She had previously been treated privately by Dr. W. H. M. Barclay, medical superintendent of the hospital, but owing to the difficulty of obtaining complete isolation she was removed to a private ward in the hospital.

On admission the patient was in a highly excited condition, paraplegic, and unable to pass her urine. There was considerable cyanosis of the lips and cheeks, a systolic murmur was heard over the heart, the extremities were cold, and there was complete absence of sensation over the whole of the lower limbs. The excitement was soon followed by a period of depression during which she seemed to be completely unconscious of her surroundings. She suffered extreme nausea at the mere sight of food and shortly after admission she vomited a quantity of blood. Her temperature, taken in the axilla on the night of admission, stood at 112° F. The menstrual function before admission had been fairly regular. As regards her former health, she had been twice before in hospital, for 15 weeks during the spring and summer of 1906 and for 11 weeks in the spring of 1907. On each occasion she had suffered from mild hysterical attacks which rapidly subsided with rest in bed, milk diet, and occasional doses of sulphonal and trional. She had suffered no other illness and her family history was excellent.

During the patient's first week in hospital her temperature ranged between 104° and 110° and for the next six days between 99° and 104°. She was never detected malingering, although Dr. Norman Moore, who was visiting the district at the time and was asked by Dr. Barclay to see the case, drew attention to the possible origin of the hyperpyrexia. After the first fortnight the temperature remained subnormal but on Nov. 1st, 11 weeks after admission, she was still *in statu quo* as far as her other symptoms were concerned. The attacks of excitement and crying, with the subsequent fits of depression and unconsciousness, had rapidly subsided, the heart sounds soon became normal, and the cyanosis of the lips and cheeks completely disappeared, but the paraplegia with the associated bladder symptoms remained unchanged. Rest and isolation, with milk diet, the bromides, valerianates, asafœtida, massage, and electricity were all tried in vain.

When seen on Nov. 1st the patient's condition was as follows. Height, 5 feet 2 inches; weight, 6 stones 13 pounds; general nutrition, fair; complexion, "pink and white"; no anæmia; no cyanosis; bowels fairly regular; appetite very poor; complete paraplegia with paralysis of the bladder. She had been catheterised twice daily since admission, and her condition in this respect seemed hopeless. The condition of the lower limbs, in spite of regular massage and careful faradic stimulation daily, seemed equally hopeless. The anæsthetic areas extended upwards on each side to a point slightly above the knee-joint. Over this area the anæsthesia to pain, heat, and cold was complete. On the outer side of the limb it extended almost as high as the buttock; on the inner side it stopped short just above the knee. The upper limbs were normal with this exception, that the hands, and especially the finger-tips, were curiously insensitive to pain. The knee-jerk was exaggerated on both sides; there were a slight tendo Achillis response, no ankle clonus, and no plantar reflex.

The urine was repeatedly examined but no abnormal constituents were found. Unfortunately no blood count was taken during the period of cyanosis. In other respects the patient was quite comfortable. On palpation there was some pain over the left iliac fossa and on deep pressure in that region the pain was acute and caused intense flushing and perspiration over the face and neck. Latterly she had been allowed an occasional visit from her friends.

It was now decided to take advantage of the method of treatment introduced by Cathelin for dealing with obstinate cases of functional enuresis, a method practised with success by Dr. George Carpenter at the North-Eastern Hospital for Children. Four drachms of normal saline solution were introduced into the epidural space of the spinal cord, the needle being inserted at the level of the cornua of the sacrum so that the injection should reach the nerve roots of the cauda equina. This was done on Nov. 5th, and the patient complained of great nausea but little pain during the injection. The only immediate result, apparently, was that the patient rejected every meal for several days afterwards, frequently vomiting blood with the rejected milk. Rectal feeding was resorted to for four days. There was no improvement in the bladder symptoms. A second injection was made on Nov. 19th. The patient complained of great pain and sickness during the injection, but that night she made a voluntary though futile effort to dispense with the catheter. On the next day she was transferred to a different private ward and handed over to Miss Rae, the matron, with instructions that her isolation should be absolute. She was put on a purely milk diet, from four to six pints daily. She was not allowed to knit or read and any convenient basins for holding vomited matter were kept out of reach. The catheter was to be avoided as far as possible. The patient's temperature that night went up to 105°, but when taken by the matron shortly afterwards it was still subnormal. She made several unsuccessful attempts to pass urine, but catheterisation was necessary on the two days following her removal. On Nov. 23rd, however, she succeeded, for the first time since her admission to hospital on August 14th, in passing urine without the aid of the catheter, and from that time onwards she never required it again. Two days later she said that she had some feeling in her legs and on the next day she could move them slightly. By Dec. 1st the patient was able to move out of bed and to stand on the floor with the matron's assistance. A week later she could walk round her room and dress herself without assistance. She was, in fact, quite well again. Her weight on Nov. 1st was 6 stones 13 pounds; on the 22nd it had gone down to 6 stones 9¼ pounds. From that time onwards she gained weight steadily and on Dec. 29th it was 7 stones 6½ pounds. By that time the patient was in excellent health and spirits and she found congenial occupation in helping the matron and nurses in the various lighter duties of the hospital.

This case resembled in some respects the cases of functional paraplegia that are met with in childhood. The true convulsive seizures met with in the graver adult types of the disease were absent. Beyond the pain felt on pressure over the left iliac fossa there was no reaction at any time to pressure upon the various hysterogenetic spots. The interest of the treatment by epidural injections lies in the fact that they were followed by a very rapid and complete recovery. One doubts whether the same result might not have been obtained by the mere removal of the patient to a quieter room, associated as that was with a very rigorous application of the Weir Mitchell treatment. One must admit the possible effect of such a powerful psychical stimulus as the introduction into the epidural space of a strong three-inch needle without even a local anæsthetic. Whether over and above this there was any real physical stimulation of the nerve roots of the cauda equina followed by a rapid improvement in the muscular tone of the bladder wall is necessarily a matter for conjecture.

I have to thank Dr. Barclay for his kind permission to use the notes of this case.

Grantown-on-Spey, N.B.

THE WEST AFRICAN MEDICAL STAFF.—Dr. M. Cameron Blair, senior medical officer in Southern Nigeria, has been transferred to Northern Nigeria, vice Dr. C. R. Chichester, from March 28th. Dr. C. R. Chichester, senior medical officer in Northern Nigeria, has been transferred to Southern Nigeria, vice Dr. M. Cameron Blair, from March 28th. Mr. J. B. H. Dawson, medical officer in Sierra Leone, has been promoted senior medical officer, vice Dr. D. H. R. Waldron retired, and transferred to the Gold Coast, from April 15th. The following gentlemen have been appointed to the staff since January: Mr. A. E. Oakeley (Northern Nigeria), Feb. 29th; Dr. R. P. Cockin (Southern Nigeria), April 25th; Dr. J. H. McKay (Southern Nigeria), April 25th; Mr. H. R. Morehead (Southern Nigeria), April 25th; and Mr. J. S. Pearson (Sierra Leone), April 25th.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Arterio-venous Anastomosis for Senile Gangrene.—A Case of Leucoderma; Death with Symptoms of Addison's Disease.—Rupture of Brachial Plexus.—Exhibition of Cases.

A MEETING of this section was held on May 8th, Sir THOMAS BARLOW, the President, being in the chair.

Mr. CHARLES A. BALLANCE read a paper on a case of Arterio-venous Anastomosis for Senile Gangrene. The patient was a woman, aged 75 years, who was admitted to St. Thomas's Hospital on Sept. 20th, 1907, with arterial gangrene of the first, second, and third toes of the right foot. The condition remained stationary for three weeks but she suffered so much pain that sedatives were required. At the end of three weeks the gangrene began to extend, all the toes became affected, and the discolouration of the skin extended over the dorsum of the foot. On Oct. 17th, an arterio-venous anastomosis was made in the upper half of Hunter's canal. The same evening an arterial pulse could be felt in the internal saphena vein and in the veins on the dorsum of the foot. The foot became warm and the pain was relieved. The discolouration of the skin of the fourth and fifth toes and of the dorsum of the foot disappeared. During the next few months the superficial gangrenous patches on the first, second, and third toes began to separate. The patient died from gangrene of the large intestine on Feb. 15th, 1908. Commenting on the questions raised by the case Mr. Ballance observed that it was now known that wounds of the heart and of the arteries and veins might be sutured; that a thrombosis or embolus might be removed by incision of the arterial wall; that portions of arteries and veins might be transplanted; that a portion of vein might be inserted between the cut and separated ends of a divided artery and that this portion of vein had a strong tendency to reconstitute the artery, assuming the anatomical characters and performing the function of an artery; that the venous system of a limb might be made to carry red blood when the arterial system is obstructed; that an anastomosis might be made between the portal and systemic veins; that varicose veins of the leg might be treated by anastomosis of the saphena vein with the femoral vein in the middle of the thigh, so that the blood to the saphena entered the femoral below the valves; that organs such as the kidney and ovary might be transplanted; and that in certain cases an aneurysm might not only be cured but gangrene might be prevented or arrested by arterio-venous anastomosis, not by occlusion but by reconstitution of the artery from which it arises, or the blood stream might be diverted from the aneurysm, as had been done in 1906 by José Goyannes. The result of the case narrated above would appear to justify the hope that a method was in sight which would replace in certain cases the necessity for amputation in senile gangrene and which might be applied to the relief of those distressing cases of endarteritis obliterans in the limbs of young people which are sometimes observed.—Dr. F. W. FORBES-ROSS described a method of operation by means of which advantage was taken of the vaso-motor dilatation following ligature of a main artery at various points and Mr. BALLANCE replied.

Dr. NORMAN DALTON read a paper on a case of Leucoderma in which the patient died with symptoms of Addison's Disease and in which Cirrhosis of the Suprarenals was found. The patient was an unmarried woman, aged 35 years at the time of death. She had had typical and widely distributed leucoderma for ten years and her health had been quite good all this time. The only noteworthy point about the skin affection was that the white patches had the faintest shade of pink in them, so that she was brown and pale pink, rather than brown and white. After death, however, the patches were quite white. In July, 1907, epigastric pain and vomiting set in. She became very weak and was admitted into King's College Hospital on Oct. 4th. On examination there, no indications of structural disease in any organ could be discovered. The vomiting continued and she became weaker. On Oct. 15th she became deadly faint and died in a few hours from cardiac failure. It was this final syncope, in conjunction with the vomiting, which suggested that Addison's disease was present, although the skin was typically leucodermic, and at the necropsy the suprarenals appeared simply to be atrophied. On microscopical examination, however, they proved to be cirrhotic. Dr. Dalton did not think that the association of the symptoms of Addison's disease with leucoderma was a mere coincidence, though he could offer no explanation as to why the innocent pigmentary changes, which were so unlike those of Addison's disease, should in any way be connected with the changes in the suprarenals and the gastric and cardiac symptoms. It was important, however, to recognise that if those symptoms supervened in a case of leucoderma some lesion of the suprarenals was probably present and that the prognosis was correspondingly grave. This case, though rare, was not unique, for McCall Anderson had recorded one of the same kind. Dr. Dalton did not discuss the pathology of leucoderma, but stated that the case might be heard of at a future time in that connexion, for Mr. G. Lenthal Cheatle had found pathological changes in the Gasserian ganglion corresponding to the white patches on the face.—The PRESIDENT referred to the case of Addison's disease with peculiar pigmentation, described by Dr. D. J. Leach in the Transactions of the Pathological Society of London, Vol. XXX., p. 478.—Sir DYCE DUCKWORTH said that the condition of the suprarenals in Dr. Dalton's case was different from that commonly found in Addison's disease.—In reply to Dr. F. PARKES WEBER, Dr. DALTON said that he was unable to say whether the white areas began as white patches on normal skin, because the condition commenced ten years ago when the patient was not under his observation.

Dr. G. F. STILL showed a girl, aged nine years, from whose stomach a hair ball had been removed. He said that the patient was admitted into King's College Hospital on Feb. 12th on account of an abdominal tumour which had been noticed first seven months previously. The abdomen had been noticed to be large for about a year, and there had been frequent sickness almost daily for several months; the child had become more ill during the last two months. The appetite was very bad, the bowels were regular; for the last three weeks the child had taken milk only. There had been much "pain in the pit of the stomach" for three months. The mother stated that for several years past the child's hair dropped out during two days in June. (No importance was attached to this statement, nor, indeed, to the scantiness of the child's hair, until operation showed the nature of the tumour, when it was ascertained that the child had been in the habit of pulling out her hair and eating it since she was three years old.) On admission the child was bright and intelligent, somewhat wasted and pale, but not acutely ill. There was no sign of disease except in the abdomen which was large and lax and showed as the child lay on her back a slight prominence across the epigastric region, which on palpation corresponded to a very hard tumour extending from the left costal margin in the splenic region to the right nipple line, where its lower edge was at the level of the umbilicus; it was two and three-quarter inches wide at its thickest part which was near its right extremity. Its upper and lower edges and its right extremity were well defined and seemed quite superficial, though evidently inside the abdominal cavity; it was not tender; its surface was smooth; it was thought to be slightly moveable up and down. Various diagnoses were suggested, including enlarged spleen (but the spleen seemed to be definable by percussion and not continuous with the tumour) and lymphosarcoma, and a tuberculous infiltration. Whilst in hospital the child seemed free from pain and vomiting was only occasional, but the child would take very little food. It was decided to explore and Mr. F. F. Burghard performed laparotomy. The stomach was found to be dilated by a hard mass which was evacuated through a longitudinal incision about three inches long near the pyloric end of the stomach. The mass proved to be a hair ball, weighing 17 ounces and measuring in its long axis 6 inches, in circumference 7¼ inches, and along its greater curvature 13¾ inches. It had exactly the shape of the stomach, of which indeed it formed a solid cast; it tailed off at the cardiac orifice into a narrower tail-like portion which must have extended quite two inches up the œsophagus.—Mr. BALLANCE described a similar case in which he found at operation that the mass did not extend into the œsophagus but passed into the jejunum.—After Dr. TRAVERS R. M. SMITH and Mr. T. S. TOWNSEND had spoken, Dr. STILL replied.

Mr. BALLANCE narrated the facts of a case of Rupture of the Upper Cord of the Brachial Plexus during Childbirth, treated by operation ten months afterwards. He said that the muscular reactions when examined under chloroform showed that the deltoid, biceps, brachialis anticus, coracobrachialis, and the supinator longus were totally paralysed. The plexus was exposed by operation in October, 1903. The fifth cervical nerve was found to have been ruptured just where it joins the sixth. The nerves were identified by stimulation. Reunion was effected by suture with silk 0000. Shortly afterwards the parents took the child to Hong-Kong. On their return with the child after four years' absence the paralysed muscles had completely recovered. At the present time, notwithstanding the strong action of the biceps, complete supination could be voluntarily effected. The pectoralis major was shortened and there was limited abduction; it was a question whether that tendon should be lengthened.—Dr. F. J. POYNTON said that the difficulty in such cases was to know when to advise and when not to advise operation. He had been surprised when following up these cases at the recovery seen in many without operation; though at first the lesion seemed exceedingly severe and the subsequent recovery was not quite complete, still it was of such a degree that it was doubtful if any operation would have produced as good a result.—In reply to Mr. C. H. FAGGE, Mr. BALLANCE said there was no time limit against operation: a good result could be expected from nerve union as long as muscular movement could be obtained by stimulation, even by strong stimulation under chloroform.

Mr. W. WATSON CHEYNE showed a case of Spontaneous Disappearance of Recurrent Carcinoma of the Breast. The patient was a female, aged 50 years, who was admitted to King's College Hospital on Sept. 26th, 1901, suffering from malignant disease of the right breast. She first noticed pain in the breast and swelling some eight months before admission; somewhat later retraction of the nipple was observed. On examination there was a large hard nodular lump in the right breast, about three inches in diameter, which was adherent to the skin and to the pectoral muscle. The nipple was retracted. The tumour was situated in the centre of the breast and its outline was indefinite; the skin was red over it but had not ulcerated. There were numerous large glands in the axilla and there were enlarged glands in the posterior triangle of the neck. On Oct. 2nd the usual extensive operation was performed, the glands in the axilla being thoroughly cleared out, as well as the fat and glands in the posterior triangle. It was quite impossible to close the wound and skin grafting was performed on Oct. 22nd. She left the hospital with the wound soundly healed on Nov. 5th. The tumour, on microscopical examination, was found to be a carcinoma. Early in 1903 she returned to the hospital with several small nodules in and under the skin, especially over the right side of the chest. There were also subcutaneous nodules in the upper part of the abdomen and elsewhere in the vicinity. These nodules were not examined microscopically, but there was not the slightest doubt that they were of a cancerous nature and represented a diffuse skin infection. Further local operation was evidently useless and oöphorectomy was suggested; that, however, she declined to submit to. On Oct. 1st, 1907, a letter from her stated: "About three years ago I found that all the lumps had disappeared, even those from the neck, soon after the menses ceased, since when I have got stronger and am altogether better in health. I have taken no medicine of any sort, lived just as before, only in place of drinking ale have used fresh lemons." On examination it was found that her statement was correct; there was no trace of the nodules which were present formerly or of any sign of recurrence of the disease.

Dr. PURVES STEWART showed a case of *Gross Lesion of the Post-central Gyrus associated with Astereognosis.* The patient was a man, aged 50 years, without history of syphilis. In 1894 or 1895 he began to complain of buzzing tinnitus in the right ear and occasional headaches, unilateral, but not always on the same side. In 1901 he had paroxysmal pains in the right hand and forearm for about three weeks. In 1904 the headaches became more severe, and in the end of 1905 he began to have attacks of vomiting. When first examined in 1906 he showed no evidence of aphasia or of weakness of any limb; the optic discs were normal. In August, 1907, he began to complain of occasional subjective sensations of tingling in the right index and middle finger and of difficulty in finding his words. He made mistakes in spelling and his memory became impaired. On examination in September there was weakness of the right lower face without weakness or ataxia of the limbs on either side. The optic discs and cranial nerves were normal. The deep reflexes were normal on both sides; the plantar reflexes could not be elicited. Speech was hesitating and in writing he made frequent mistakes of spelling, tending to miss out letters or to write the wrong letter. He could execute spoken or written commands. Shortly after this, in spite of energetic antisyphilitic treatment, the headache became more intense and was now localised to the left parietal region. The right upper limb became clumsy and slightly weak. He developed astereognosis, failing to recognise objects such as a watch-chain or a safety-pin with the right hand and succeeding with the left. The deep reflexes were normal on the two sides in the upper and lower limbs. By the middle of October speech had become still more impaired with difficulty in finding words and occasional jumbling of syllables. There was no hemianopia. The right lower face was weak and the right fingers and wrist were totally paralysed and flaccid, the elbow and shoulder being feeble. The right leg dragged slightly in walking. There was no cutaneous anæsthesia or analgesia; the supinator-jerk and knee-jerk were increased on the right side; the plantar reflexes were not elicited. The optic discs remained normal. The astereognosis of the right hand with the steadily progressive right hemiplegia and the intense headache, in spite of the absence of optic neuritis and vomiting, suggested a gross intracranial lesion in the region of the left post-central gyrus. The patient was accordingly sent to Mr. Ballance with a view to operation. On Oct. 28th Mr. Ballance performed the second stage of an exploratory operation in the left parietal region. The pia-arachnoid was thick and yellow over part of the left post-central gyrus, the patch of infiltration being strictly limited anteriorly by the fissure of Rolando. The diseased area occupied the post-central gyrus in its middle third and the adjacent part of its lower third. At a small distance anterior to the pre-central gyrus, over the middle frontal gyrus, there was a small stellate patch of opacity in the pia-arachnoid, not purulent as in the post-central gyrus. The diseased area of meninges and subjacent cortex in the post-central gyrus was removed. On Nov. 5th speech was hesitating, the patient talking in monosyllables or isolated words, not in sentences, and occasionally misplacing his syllables. He could read aloud but did not attempt to execute written commands. He could repeat sentences spoken to him and he understood and executed spoken commands. He could copy written sentences with his left hand but could not write spontaneously. No cutaneous anæsthesia or analgesia was present. Distinct atopognosis to touches existed in the right hand, the touches being misjudged in a proximal direction; with pin-pricks localisation was accurate. Joint-sense was normal in the right shoulder and elbow but was lost in the right wrist and fingers. Astereognosis of the right hand was as before. The external ocular movements were normal; the right lower face was weak, both on voluntary and emotional movement. The right shoulder and elbow were feebler than the left; the movements of the right wrist, especially extension, were still more feeble. The fingers were totally paralysed. There was some wasting of intrinsic hand muscles, especially the interossei in the right hand. The right lower limb was slightly feebler than the left and dragged a little in walking. The right supinator jerk was markedly increased and the right knee-jerk was moderately increased; there was no ankle clonus. Plantar reflexes were both flexor in type. On Nov. 22nd speech had begun to improve, though still "telegraphic" in style. He had been reading the sporting papers and remarked, "Cricket match," "Australia," "draw." He sang the airs of "God save the King" and "Auld Lang Syne" accurately but confused the words. He had no word-deafness. He could copy written words and write simple words to dictation. Atopognosis of the right hand was now practically gone. There was no cutaneous anæsthesia or analgesia. Joint-sense was normal at the shoulder and elbow, and was lost at the wrist and fingers. Astereognosis with objects placed in the right hand was present as before. There was now no absolute paralysis of any movement of the right upper limb, though all movements were feeble, especially in the fingers. The wasting of the intrinsic hand-muscles was distinct. The deep reflexes on the right side were increased, chiefly in the upper limb; the plantar reflexes remained flexor in type. At the present time the aphasia had largely cleared up and amounted merely to hesitation in speech with some slurring of articulation. There was moderate weakness of the right lower face and of the right upper limb at all joints. The right lower limb was practically normal. There were no sensory changes save in the right hand. He could feel and localise light touches and pin-pricks all over the hand, though there was occasional atopognosis. Heat and cold were appreciated normally. Joint-sense was normal in the shoulder, elbow, and wrist, but was impaired in all the fingers, the thumb being least affected in this respect. Astereognosis was as before. With the eyes shut he failed to recognise objects placed in the right hand, such as a bottle, a watch, a chain, a pencil, a penny, all of which he recognised promptly with the left hand. The deep jerks in the right upper limb were markedly increased and in the right lower limb only slightly increased; there was no ankle-clonus and the plantar reflexes were flexor in type.

Dr. J. BARNES BURT exhibited three cases of Gout showing Destructive Changes in Bone. The first was a patient, aged 67 years, who had suffered from gout on and off for the last 25 years. It began in the left ankle; practically every joint in the body had been affected at one time or another. The hands were first affected 21 years ago; "chalk" appeared 12 years ago. There were numerous tophi on both hands and around the toes, and a few small deposits in both ears. The synovial membranes of the knee and ankle joints were thickened and the patient had been unable to walk for the last 11 years. Both hands were much deformed by tophi; in several situations the skin had ulcerated. A skiagram of the left hand showed a "mashed-up" appearance of the carpus and ulnar deflection of the fingers. There was necrosis of bone of the size of a sixpenny-bit; in the proximal end of the first phalanx of the index finger the bone was expanded around the area. There was a similar but smaller area in the corresponding phalanx of the next finger; also several small punched-out areas of necrosis in the distal end of the second phalanx of the index finger. It was important to notice that there was no tophus over the metacarpo-phalangeal part of the index finger, the small hard lump felt there being part of the head of the second metacarpal bone; also the skin over the area was quite healthy. The second case was that of a female, aged 36 years, who had suffered from gout for the last five years. The first attack was in the right big toe. The hands were not affected till three years ago; most of the joints had been affected at some time or other. At the end of last year she was seen in an acute attack of gout. The toes, both knees, and the left wrist were affected. There was a uratic deposit in the right olecranon bursa, also around the terminal joint of the middle finger of the left hand. There was some limitation of movement in the right wrist. At the present time there were no abnormal physical signs in any other joints with the exception of the terminal joint of the middle finger of the left hand. There was a semi-soft slightly tender swelling round this joint; on the dorsum was a scar, the site of an incision made a year ago in one of the London hospitals, where it was mistaken for a whitlow. Crystals of sodium urate were obtained from the spot. The movement in that joint was only slightly impaired. A skiagram of the left hand showed a necrotic area of about the size of a pea in the distal end of the second phalanx of the middle finger. The third case was that of a man, aged 55 years, who had suffered from gout on and off for the last five years. In January last he was seen in an acute attack of gout, affecting first his feet and knees and later both hands, hips, and the neck. During the acute attack a blister appeared over the terminal interphalangeal joint of the index finger of the left hand. On puncture a milky fluid exuded which under the microscope was seen to be composed of crystals of sodium urate, together with a few leucocytes. At the present time there were no tophi to be seen. In the left hand a small bony nodule could be felt over the terminal joint of the index finger. Movement in that joint was only slightly impaired. There was slight hyper-extension of the proximal interphalangeal joint of the middle finger. Movement in this joint was free. The terminal joint of the little finger of the right hand was ankylosed. A skiagram of the left hand showed a light area in the distal end of the first phalanx of the middle finger; also another light area in the distal end of the second phalanx of the index finger. A small bony addition could be seen on the inner side of the first phalanx of the middle finger.—Sir DYCE DUCKWORTH considered that the theory of Ebstein that before uratic deposit occurred there must be a necrosed condition of the bone was incorrect. Many of these bony enlargements occurred quite apart from uratic deposit.—Dr. POYNTON believed that necrosis took place in the bone prior to the deposit of biurate of sodium. He thought that it would be interesting to investigate bacterial action in these cases.

Mr. HENRY CURTIS showed skiagrams of two cases of Congenital Absence of Both Thumbs and exhibited one of the patients with this somewhat rare deformity. Both cases had been seen by him at the Metropolitan Hospital, Kingsland-road, within the last four months. The case shown was a young man, aged 19 years; the other a girl, aged six months, was under treatment for scurvy rickets by Dr. W. Langdon Brown. This patient, whose deformity was indicated in the skiagram, showed no other malformation, but Dr. Langdon Brown made the interesting observation that another child in the family suffered from congenital heart disease. The skiagram showed the commoner variety of this deformity—namely, absence of the thumb and first metacarpal, associated with defective (or in some cases absent) radius. The patient shown to the society by Mr. Curtis was an example of the other and rarer type where the absence of the thumb and first metacarpal is unaccompanied by any defect in the radius, which skiagrams showed was as normal as the ulna. The trapezium and the scaphoid were also entirely absent; the trapezoid was present, but perhaps not quite normal in shape; all the other carpals and metacarpals and phalanges (with the exception of the middle phalanx of the little finger, which was shortened) appeared to be normal. The little finger on both sides was shorter than normal. There was some appearance of a thenar eminence, probably the result of constant practice in attempts to adduct the first digit (index finger) so as to grasp articles such as a knife or pen, which the patient could hold between the first and second digits. He could write his name fairly well, but he said he could not carry dishes and that owing to his deformed hands he was unable to follow any occupation. He was stunted in body and his facial aspect and general physiognomy, together with his apparent lack of initiative, suggested that his intelligence was also somewhat defective.

Mr. FAGGE showed a case in which, for Recurrent Sarcoma, parts of the Femoral Artery and Vein were Excised. The patient was a female, aged 50 years, who was admitted into Guy's Hospital in September, 1906, for a tumour on the inner side of the right thigh; it had been present for six weeks and had continued to grow in spite of treatment with iodide of potassium. It was situated below, and internal to, the saphenous opening, was from 3 to 4 inches in diameter, hard, well defined, not fixed to skin or bone, but was within muscles. By a long incision the tumour and the whole of the adductor brevis, which was spread out over it, were removed as it was thought to arise in that muscle. Microscopically it was a spindle-celled sarcoma with some myeloid cells which, in Mr. J. H. Targett's opinion, arose not in the muscle but from the intermuscular fascia. The first recurrence was removed in July, 1907, and the patient was re-admitted in December for a second recurrence, of the size of an apple, at the junction of the upper two-thirds and the lower third of the thigh; on operating the growth was found adherent to the femoral sheath within Hunter's canal and in close proximity to the femoral vessels. The artery and vein were therefore ligatured above and below, and the portions within Hunter's canal were removed. The circulation in the leg was quite restored on her discharge 18 days later. A third recurrence was removed on March 13th of this year.

Mr. FAGGE also showed a case of Aneurysm of the Common Femoral Artery for which he had performed excision of the aneurysm and common femoral vein. The patient was a man, aged 26 years, who was admitted into Guy's Hospital for a tumour of the size of an orange in the right Scarpa's triangle. Four years previously he had a blow in this position with a crowbar and a year ago he had rheumatic fever. He had noticed the lump for eight months; it had gradually increased and had been painful for three months. The right external iliac artery was enlarged and pressure over it did not entirely stop the pulsation in the tumour, which was "expansile"; the right posterior tibial pulse was delayed and small. There were no signs of syphilis or cardiac disease. On March 30th the right external iliac artery was exposed and trebly ligatured with No. 4 French catgut; the lowest ligature was placed about 1½ inches above Poupart's ligament, as below this the artery was dilated. Pulsation in the aneurysm was diminished but did not cease, so the deep epigastric was ligatured and the incision was continued downwards and the superficial femoral artery tied. The aneurysmal sac was dissected out, the anterior crural nerve being peeled off it externally, and behind the superficial femoral vein was separated from it to a point at which it joined the deep vein, where its wall became so thin that it was thought necessary to ligature both veins; the deep femoral artery was ligatured and the whole aneurysm then came away, the external iliac rupturing below the ligatures as it was pulled down. After the deep circumflex iliac vessels had been exposed and tied the common femoral vein was tied just below Poupart's ligament. There was slight superficial gangrene at the inner edge of the wound and a small blister formed on the heel. The leg and foot presented a mottled aspect for 48 hours, after which sensation and power of movement returned, but the pulse in the tibial vessels could not be felt a month after operation.

Dr. G. A. **SUTHERLAND** showed a case of Scleroderma in a boy, aged five and a half years. The patient had an attack of measles six weeks ago, from which he recovered, but three weeks ago his father noticed that the skin of the boy's face felt tense and hard. He also seemed unable to open his eyes fully. The characteristic induration of scleroderma affected the face, including the eyelids, the scalp, the neck, and the upper and lower extremities. The tongue was distinctly hard. The ears were quite free from any thickening and the skin over the trunk was only slightly affected. There was no leucoderma or pigmentation. The skin for the most part was dry and harsh. A scratch on the indurated parts produced a persistent white streak, while one on a healthy part produced a red streak. The boy's general condition and development were good.

Mr. **ALBERT CARLESS** showed a case of Multiple Symmetrical Lipomata in a man, aged 37 years, who came under observation for the condition in 1905. The trouble first showed itself on the left side of the face in 1903 as a small lump which used to vary in size; but subsequently other swellings appeared on the right side of the face and behind the left ear. He had been operated on twice before 1905. Photographs were shown representing his appearance in June, 1905. There were large tumours reaching from the zygoma downwards to the angle of the jaw and backwards behind the ear on either side; also a submental mass and one in the occipital region. The facial masses were removed by operation, and it was found that the growths were definitely limited, but burrowed deeply. Their removal was difficult in the extreme, as the main vessels in the neck were laid bare and there were many adhesions. In November, 1905, he was again operated on and the median submental mass removed. Here, too, the mass, though apparently diffuse, was in reality limited and well defined. This mass was easier of removal than the previous ones. The occipital mass was removed during his stay in hospital on this occasion. This, too, was definitely limited, though very adherent to surrounding parts; it had burrowed into and amongst the muscles at the back of the neck. At this time other growths were noted, one in the middle line over the isthmus of the thyroid, and one over each internal condyle in the arm. In February, 1908, he again came under observation when the main trouble was in the neck. The tumour in front of the thyroid isthmus had grown as large as a cocoanut and projected above the manubrium. It appeared to be well defined, did not move on deglutition, and caused no trouble in breathing or swallowing. It appeared to burrow deeply into the neck, and the veins over the chest wall were dilated, as if there were some mediastinal pressure. The mass was dissected away on Feb. 15th and had burrowed deeply and widely; prolongations passed backwards and downwards on each side, and finally disappeared along the vessels into the chest, where they could not be followed further. The side of the neck and the face had also been occupied once again with fatty masses, and there were symmetrical growths over the deltoids, over the spines of the scapulæ, and in the arms on either side. The points of importance in this case were that these growths, though sometimes termed diffuse lipomata, were in reality limited and localised, although the limits were sometimes difficult to define in the midst of the surrounding fat; that they tended to burrow and become adherent to surrounding parts; and that the burrowing might occur into regions such as the chest, where serious symptoms from pressure on important structures might result.

Mr. P. **MAYNARD HEATH** showed a case of Caries of the Spine with Clubbing of the Fingers and Toes. The patient was a girl, aged six and a half years, who had suffered from spinal caries for four years. The disease had apparently become arrested but with great deformity of the thorax. The clubbing of the fingers and toes had been noticed for 12 months. There was no evidence of abscess formation or of lung disease. The child suffered from occasional attacks of cyanosis. An x ray photograph showed very little change in the terminal phalanges.

Dr. **PARKES WEBER** showed a case of Multiple Idiopathic Hæmorrhagic Sarcoma of the Skin in a man, aged 52 years, who except for the present disease had enjoyed good health. The disease was said to have commenced about six years ago when he chanced to wound the sole of his right foot with a nail. A pedunculated growth arose from the wound which was removed by a medical man. Afterwards small, slightly elevated, hard, bluish or purple spots appeared in the skin of the lower extremities, especially the feet, and the left foot and ankle became swollen. From time to time sessile or pedunculated outgrowths, mostly not larger than a lentil or a pea, developed on the affected parts, chiefly on the left foot, and the little pendulous tumours tended to become ulcerated and to drop off or were knocked off accidentally. At present, except for a few minute raised purple or bluish spots on the hands and on the glans penis and neighbouring skin, the disease was confined to the lower extremities. It was most advanced in the left foot, over a great part of which the dark purple spots were confluent, and there was persistent œdema of the left foot and leg. Two or three characteristic little pendulous tumours on the left foot were "ripe" and quite ready to drop off. On the right foot there had for years been a large patch of brown pigmentation, the exact relation of which to the disease was uncertain. The lymphatic glands were not affected. The present case was a typical one of Kaposi's so-called "multiple idiopathic hæmorrhagic sarcoma," which J. Hutchinson had described as the "sarcoma melanodes of Hebra and Kaposi," and for which other terms had also been proposed, such as "granuloma multiplex hæmorrhagicum," "acroangioma hæmorrhagicum," and "acrosarcoma multiplex cutaneum telangiectodes" (Unna). A description of the present case was published three years ago.[1] Since then the disease had not progressed much. The patient had been away from London most of the time, and apparently no prolonged course of arsenic or atoxyl had yet been tried. There was no sign of any visceral disease.

THERAPEUTICAL SECTION.

Rheumatism and Chorea in Children.

A meeting of this section was held on April 28th, at the Apothecaries' Hall, Blackfriars, Dr. T. E. **BURTON BROWN**, the President, being in the chair.

Dr. **LEONARD G. GUTHRIE** read a paper upon Rheumatism and Chorea in Children. He maintained that salicylate of sodium and allied drugs were palliatives but not cures for rheumatism. Carditis and nodules appeared in patients fully under the influence of salicylates. The use of large doses of salicylates was not devoid of danger. It was contended that sodium bicarbonate was an antidote to the poison of salicylates, but to give poison and then antidote at the same time was a questionable therapeutic measure. The treatment of the acute stage of chorea was by rest in bed, quiet, isolation, protection from injury, and nourishing food. In severe cases hypnotics were necessary—chloral and bromide, chloralamide or chloretone. Arsenic, given on the intensive method, was not recommended. Ill results in the shape of gastro-enteritis and peripheral neuritis were too frequent. Salicylates, including aspirin, could not be regarded as curative. The average duration of chorea, under the mode of treatment recommended, did not exceed four or five weeks, and cases which did not recover under three months could not be considered testimonials to any form of treatment adopted.

Dr. R. **CECIL WALL** said that with almost all that Dr. Guthrie had said he felt himself in complete accord. Referring to statistics published in the Transactions of the Therapeutical Society for 1905, which he had compiled in an attempt to estimate the effect of different drugs in chorea, Dr. Wall stated that he then found that of cases treated by arsenic

---

[1] Parkes Weber and P. Daser in the British Journal of Dermatology, April, 1905, p. 135.

36 per cent. were cured in less than two months. Similar figures were given for treatment with salicylate of sodium and with other drugs. It was only when they came to the treatment with aceto-salicylic acid that they found a very marked difference. Of these 92 per cent. were discharged from hospital in less than two months, the majority in four weeks from admission. After two more years' experience of this treatment he still felt very strongly in favour of it. With regard to the dangers of the use of aspirin—the vomiting to which Dr. Guthrie had alluded—he found that it was possible to avoid that altogether if aspirin was only given when there was food in the stomach. Moreover, aspirin should never be given in compressed form but invariably as a powder. Very large doses, doses such as he himself would not prescribe, he had seen give rise to hæmaturia. In violent cases he thought it wise to make use of sedatives, and he would select chloral and chloralamide. He thought the use of bromides very harmful. In certain cases the result of giving bromides had been to produce mania. Any depressing drug like bromide was liable to exaggerate rather than to ameliorate the condition. He looked upon chorea as being due to a paralysis of the cortical centres, allowing the lower parts of the nervous system to act spontaneously.

Dr. D. B. LEES maintained that the neurotic element in chorea was largely the effect of the rheumatic toxin on the brain. He laid emphasis on the alteration in temper and disposition which was often manifested in children with early chorea. At times, too, there was very distinct aphasia, more than could be accounted for by simple weakness of muscular movement. Lastly, hallucinations of vision were not infrequently met with. In the treatment of rheumatism and chorea he advocated the use of very large doses of salicylate of sodium. He believed very strongly that salicylates were more readily tolerated if a double dose of sodium bicarbonate was given at the same time. When unpleasant symptoms occurred the dose should be decreased, not omitted; given in this way it was usually possible to educate the patient to tolerate without difficulty three or four times the dose which at first caused unpleasant symptoms. He had found such extraordinary benefit result from the local use of ice in pericarditis that he was surprised to hear Dr. Guthrie say that he gave opium in pericarditis because he did not know what else to do.

Dr. J. GORDON SHARP said that he had never found that depression resulted from the use of salicylates and he agreed with Dr. Lees that large doses did great good. He was much astonished that opinion in London was against the use of arsenic in chorea. His own experience in the North of England was that it was a most valuable drug. He thought that there must be something peculiar in the London constitution that could not stand that important drug. He believed very strongly that there was an intimate connexion between rheumatism and chorea.

Dr. J. GRAY DUNCANSON spoke of the success which attended the use of arsenic in chorea in Scotland. He thought that it was all a matter of environment.

OTOLOGICAL SECTION.

Exhibition of Cases and Specimens.

A MEETING of this section was held on May 2nd, Dr. PETER MCBRIDE, the President, being in the chair.

Dr. W. S. SYME showed a case of Lateral Sinus Thrombosis in which recovery took place as a result of operation; also a case of Bezold's Mastoid Empyema which discharged into the pharynx.

Dr. J. DUNDAS GRANT showed two interesting cases of Unilateral Hysterical Nerve Deafness in conjunction with Dr. PURVES STEWART; also a case of Lateral Sinus Thrombosis following chronic suppuration of the middle ear in which ligature of the jugular vein was necessary.

Mr. P. MACLEOD YEARSLEY showed Specimens of Necrosis of the Labyrinth, the sequestra consisting of part of the vestibule, with the openings of the semicircular canal and of part of the promontory and cochlea. The patient, who was extremely ill before operation and suffered from vertigo and tinnitus, is now almost well again.

Dr. E. FURNISS POTTER showed a case of Chronic Eczema of the Auricle and Meatus on each side; the hyperplasia was so great that the lumen of the auditory canal was almost completely obstructed and the auricle was markedly thickened causing considerable deformity.

Mr. HUNTER F. TOD showed a case of Complete Atresia of the Posterior Nares, with flattening of the nose externally and almost complete absence of the nasal septum. The condition was due to congenital deformity or syphilis, probably the latter.

Dr. V. H. WYATT WINGRAVE demonstrated specimens, photographs, and diagrams illustrating his paper on the Clinical Pathology of Aural Discharges. In this interesting and instructive paper, the result of over five years' uninterrupted research work, Dr. Wingrave pointed out the importance of obtaining as much information as possible from the character of the discharge both from a bacteriological and cytological point of view. Such examination would be useful in determining whether the disease was acute or chronic or whether the deeper structures were involved or not; in addition, the character of the epithelium would show what part of the middle ear was affected and if of a cholesteatomatous nature. Further, a careful record of the bacteriological examination of a large series of cases in conjunction with the clinical symptoms might in the future considerably assist the surgeon in determining the question of operation and prognosis. Although cytology was still in its infancy Dr. Wingrave felt sure that it would soon be as justly appreciated as the examination of other discharges such as sputum, blood, urine, vomit, fæces, and cerebro-spinal fluid which were now so necessary to the clinician.

MEDICAL SOCIETY OF LONDON.

Recent Advances in the Surgical Knowledge and Treatment of Syphilis.

A MEETING of this society was held on May 11th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Mr. D'ARCY POWER read a paper on Recent Advances in the Surgical Knowledge and Treatment of Syphilis. He drew attention to the advantage of reviewing the knowledge of every scientific subject from time to time because advances in one branch often led to progress in others which appeared at first sight to be remote from it. The recognition and treatment of syphilis, he said, had occupied a disproportionately large amount of attention ever since the introduction of the disease into Europe at the end of the fifteenth century, partly on account of its manifest effects on the bodies of patients and partly because its advent was coincident with a very active period in the intellectual life of Europe which made men accurate observers and careful recorders of everything that was new to them. The diagnosis and treatment of syphilitic disease of the bones and joints had been greatly helped by progress in optics, leading to the production of better microscopes, by advances in physics resulting in the discovery of the Roentgen rays, and by the rapid progress of pathology, itself based on physics, chemistry, and biology, which had led to the discovery of the spirochæta pallida as the essential micro-organism causing the disease. Mr. Power then pointed out that histology enabled cases of tumor albus or white swelling of joints to be classified as tuberculous and gummatous. The distinction between these two forms was thought at first to be absolute and the text-books accordingly described the signs and symptoms of the two conditions as being entirely distinct. They failed to take any account of an intermediate form which was neither wholly tuberculous nor entirely gummatous but appeared to be a tuberculous infection of the joints occurring in those who had inherited syphilis. Reference was made to two cases of this nature, the one occurring in a boy, aged 14 years, and the other in a man, aged 38 years. Mr. Power thought himself justified in asserting that it was now necessary to form a series of intermediate groups due to the microbic infection of tissues the character of which had been modified by the action of the spirochæta pallida. Tubercle and syphilis formed, he said, the most frequent combination leading to chronic disease of the joints, but some varieties of pneumococcus and staphylococcus showed a special liability to invade syphilitic tissues, whilst an attack of influenza often proved the starting point of a gummatous arthritis in syphilitic patients. But in all this there was nothing very new, he said, for it had always been recognised that phagedænic inflammation was frequent in syphilitic patients, whilst the occurrence of cancer of the tongue in those who suffered from syphilitic leukoplakia was notorious. The Roentgen rays had enabled important advances to be made in the knowledge of syphilitic inflammations of bones and joints. The skiagraphic appearances of syphilitic osteitis and arthritis differed from those seen in the analogous inflammations caused by tubercle and rheumatism. The application of the x rays in cases of syphilitic bone disease had been particularly instructive, for it had enabled the effects of inherited syphilis to be traced onwards to a far more advanced period of life than had hitherto been thought possible. Mr. Power described the case of a man, aged 26 years, who had married young, whose wife was healthy and had borne him healthy children, and who had himself been free from any disease or ailment so long as he could remember. This man crushed his left arm between two vans. He continued to work for six months but it gradually became so swollen and painful that he applied for relief at St. Bartholomew's Hospital, saying that his elbow was getting stiff. A radiograph showed the appearances of a gummatous osteomyelitis of the lower part of the left humerus and the upper third of the bones of the forearm, whilst further examination revealed the existence of a puffy swelling over the centre of the left parietal bone and a gummatous ulcer on the right side of the neck. The patient was cured by a course of mercury preceded by a few doses of potassium iodide. Attention was further drawn to the interaction of tubercle and syphilis by the narration of a series of cases in which young persons presented the appearances characteristic of a leukoplakic tongue and had died afterwards from tuberculosis. The peculiar characters of a leukoplakic inflammation, it was contended, would not have been impressed upon the tongue in these patients if they had not inherited syphilis; indeed, in the absence of a syphilitic taint the tongue might entirely have escaped inflammation, for primary tuberculosis of the tongue was rare. Mr. Power thought that it would be extremely interesting to ascertain whether these children were the "healthy" offspring of parents who had been "cured" of syphilis before marriage or whether they had suffered in their infancy from other signs of inherited syphilis. Except for the leukoplakia they certainly presented no other evidence of syphilis and they were for the most part well-grown young women of pleasing aspect. The advances in the surgical treatment of syphilis had proceeded along two main lines. First, a thorough belief in the curative value of mercury when properly administered, the object of treatment being to cure the disease and not merely the symptoms complained of by the patient; secondly, a clear comprehension of the limitations of treatment by iodides. It was impossible for the tissues to rid themselves of large masses of inflammatory syphilitic products even with the help of iodides. It was better, therefore, to remove gummata, mucous patches, condylomata, and similar masses by ordinary surgical means rather than trust to their absorption by nature. Iodides might then be given with very satisfactory results, but they should always be followed by a mercurial course. Mr. Power concluded his paper by saying that his observations upon syphilis from a surgical standpoint brought him into line with those physicians who held that certain physiological factors would produce evidence of active syphilitic inflammation in those who had hitherto shown no trace of the disease though they were known to have inherited it. Mr. Power had endeavoured to show that injury might evoke a latent taint of inherited syphilis just as it had long been known to reawaken acquired syphilis.

The PRESIDENT observed that one of the points emphasised by Mr. Power was the possibility of the late appearance of inherited syphilis.

Mr. CAMPBELL WILLIAMS commented on the difficulties of diagnosing modified syphilis; and Colonel F. J. LAMBKIN, R.A.M.C., described how he had overcome the objections urged in Uganda against the use of mercury for the native and advocated intramuscular mercurial injections as the best way of treating syphilis.

Dr. STCLAIR THOMSON explained the advantages of tracheotomy in treating syphilis of the larynx.

Mr. C. J. SYMONDS raised the question whether late congenital syphilitic cases were not really cases of syphilis acquired in early life.

Mr. CHARLES RYALL dwelt on the importance of recognising the syphilitic origin of leukoplakia especially in reference to its relation with cancer. He also insisted on the value of rest in bed in an equable temperature in cases of syphilis.

Mr. C. F. MARSHALL spoke on the predisposition of the syphilitic condition to gonococcal infection and he was followed by Dr. H. F. WINSLOW and Dr. R. PARAMORE.

Dr. A. F. VOELCKER discussed the difficulty of diagnosing bone lesions in syphilis by x rays.

Major H. C. FRENCH, R.A.M.C., brought forward facts and figures in proof of the efficacy of the treatment of early syphilis by inunction.

Mr. POWER then replied.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 1st, Mr. Richard Lake, the President, being in the chair.—Dr. Herbert R. Spencer gave a short address on the Examination of the Pelvis and Abdomen during Pregnancy, its advantages and indeed its necessity if women were to have the full benefit of obstetric science at the time of labour. It was a practice which he had personally adopted during the last 20 years. Lantern slides were exhibited illustrating the advantages of the examination and the dangers and fatalities resulting from its omission. He advocated external and internal examination at the end of the third month and external examination at the end of the seventh month. Vaginal examination should be gentle; he warned especially against forcible bimanual examination and the eliciting of Hegar's sign as liable to produce abortion. The value of abdominal ballottement was referred to. Dr. Spencer stated that the height of the top of the pregnant uterus above the pubes was erroneously stated in English text-books At the end of the third calendar month it was as high as the promontory (three and three-quarter inches above the symphysis); at the end of the fifth calendar month it was on a level with the umbilicus. The height above the symphysis during the first six calendar months was obtained approximately by adding half an inch to the number of the month. It could be felt at two and a half inches above the symphysis in all ordinary cases at the end of the second month. The advantages to be derived from examination during pregnancy were that the fact and the period of gestation, the position of the uterus, and the presentation and position of the child were ascertained and treatment could be applied during the pregnancy. Presentation of the breech and shoulder would thus in many cases be prevented. Contraction of the pelvis could thus be discovered in time to decide on induction of labour or on Cæsarean section which in such cases should always be successful at the present day. —Dr. Seymour Taylor read a paper on Some Neglected Remedies. Commencing with external applications, Dr. Taylor advocated the use of the seton in some forms of congestive headache and even in epilepsy. He was convinced that in the latter disorder a judiciously applied seton deferred epileptic attacks and even rendered them less severe. Venesection again was valuable treatment in those diseases where the circulation through the right heart was embarrassed. He quoted three cases, one of chronic bronchitis and marked cyanosis and one of acute œdema of the lungs following mitral obstruction in which the patients were fully bled and both of them recovered when on the verge of death; the third case was one of suicidal hanging, and in this instance the external jugular vein was opened and life was prolonged to the third day. But bleeding should never be regarded as a routine practice as it was formerly. Bleeding was useful in many cases of pneumonia, for example, but chiefly when cyanosis was a marked symptom. The indications for bleeding were afforded by the heart rather than the lung. The blister was also a somewhat neglected remedy, yet it afforded great relief to the acutely inflamed rheumatic joint and the smart of a blister was more tolerable than the dull throbbing of a swollen joint. Blistering in pericarditis had been revived and with advantage. Consistency also demanded that if they blistered a rheumatic knee they should also blister a rheumatic heart; and they did so in many instances with the utmost benefit. Dr. Taylor then spoke of the use of some drugs. Sarsaparilla, an old-fashioned remedy, was undoubtedly a corrective remedy in some skin affections which were not syphilitic. But its chief efficacy lay as an adjunct to iodide of potassium in the treatment of cutaneous syphilides and of nodes. It should be prescribed in large doses. Other neglected remedies which were referred to were Plummer's pill in primary syphilis (this remedy should be freshly made); pulvis basilicus or royal powder as a febrifuge in children suffering from fever due to gastro-intestinal irritation; guaiacum, gum ammoniacum, and copaiba in chronic

36 per cent. were cured in less than two months. Similar figures were given for treatment with salicylate of sodium and with other drugs. It was only when they came to the treatment with aceto-salicylic acid that they found a very marked difference. Of these 92 per cent. were discharged from hospital in less than two months, the majority in four weeks from admission. After two more years' experience of this treatment he still felt very strongly in favour of it. With regard to the dangers of the use of aspirin—the vomiting to which Dr. Guthrie had alluded—he found that it was possible to avoid that altogether if aspirin was only given when there was food in the stomach. Moreover, aspirin should never be given in compressed form but invariably as a powder. Very large doses, doses such as he himself would not prescribe, he had seen give rise to hæmaturia. In violent cases he thought it wise to make use of sedatives, and he would select chloral and chloralamide. He thought the use of bromides very harmful. In certain cases the result of giving bromides had been to produce mania. Any depressing drug like bromide was liable to exaggerate rather than to ameliorate the condition. He looked upon chorea as being due to a paralysis of the cortical centres, allowing the lower parts of the nervous system to act spontaneously.

Dr. D. B. LEES maintained that the neurotic element in chorea was largely the effect of the rheumatic toxin on the brain. He laid emphasis on the alteration in temper and disposition which was often manifested in children with early chorea. At times, too, there was very distinct aphasia, more than could be accounted for by simple weakness of muscular movement. Lastly, hallucinations of vision were not infrequently met with. In the treatment of rheumatism and chorea he advocated the use of very large doses of salicylate of sodium. He believed very strongly that salicylates were more readily tolerated if a double dose of sodium bicarbonate was given at the same time. When unpleasant symptoms occurred the dose should be decreased, not omitted; given in this way it was usually possible to educate the patient to tolerate without difficulty three or four times the dose which at first caused unpleasant symptoms. He had found such extraordinary benefit result from the local use of ice in pericarditis that he was surprised to hear Dr. Guthrie say that he gave opium in pericarditis because he did not know what else to do.

Dr. J. GORDON SHARP said that he had never found that depression resulted from the use of salicylates and he agreed with Dr. Lees that large doses did great good. He was much astonished that opinion in London was against the use of arsenic in chorea. His own experience in the North of England was that it was a most valuable drug. He thought that there must be something peculiar in the London constitution that could not stand that important drug. He believed very strongly that there was an intimate connexion between rheumatism and chorea.

Dr. J. GRAY DUNCANSON spoke of the success which attended the use of arsenic in chorea in Scotland. He thought that it was all a matter of environment.

OTOLOGICAL SECTION.

Exhibition of Cases and Specimens.

A MEETING of this section was held on May 2nd, Dr. PETER MCBRIDE, the President, being in the chair.

Dr. W. S. SYME showed a case of Lateral Sinus Thrombosis in which recovery took place as a result of operation; also a case of Bezold's Mastoid Empyema which discharged into the pharynx.

Dr. J. DUNDAS GRANT showed two interesting cases of Unilateral Hysterical Nerve Deafness in conjunction with Dr. PURVES STEWART; also a case of Lateral Sinus Thrombosis following chronic suppuration of the middle ear in which ligature of the jugular vein was necessary.

Mr. P. MACLEOD YEARSLEY showed Specimens of Necrosis of the Labyrinth, the sequestra consisting of part of the vestibule, with the openings of the semicircular canal and of part of the promontory and cochlea. The patient, who was extremely ill before operation and suffered from vertigo and tinnitus, is now almost well again.

Dr. E. FURNISS POTTER showed a case of Chronic Eczema of the Auricle and Meatus on each side; the hyperplasia was so great that the lumen of the auditory canal was almost completely obstructed and the auricle was markedly thickened causing considerable deformity.

Mr. HUNTER F. TOD showed a case of Complete Atresia of the Posterior Nares, with flattening of the nose externally and almost complete absence of the nasal septum. The condition was due to congenital deformity or syphilis, probably the latter.

Dr. V. H. WYATT WINGRAVE demonstrated specimens, photographs, and diagrams illustrating his paper on the Clinical Pathology of Aural Discharges. In this interesting and instructive paper, the result of over five years' uninterrupted research work, Dr. Wingrave pointed out the importance of obtaining as much information as possible from the character of the discharge both from a bacteriological and cytological point of view. Such examination would be useful in determining whether the disease was acute or chronic or whether the deeper structures were involved or not; in addition, the character of the epithelium would show what part of the middle ear was affected and if of a cholesteatomatous nature. Further, a careful record of the bacteriological examination of a large series of cases in conjunction with the clinical symptoms might in the future considerably assist the surgeon in determining the question of operation and prognosis. Although cytology was still in its infancy Dr. Wingrave felt sure that it would soon be as justly appreciated as the examination of other discharges such as sputum, blood, urine, vomit, fæces, and cerebro-spinal fluid which were now so necessary to the clinician.

MEDICAL SOCIETY OF LONDON.

Recent Advances in the Surgical Knowledge and Treatment of Syphilis.

A MEETING of this society was held on May 11th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Mr. D'ARCY POWER read a paper on Recent Advances in the Surgical Knowledge and Treatment of Syphilis. He drew attention to the advantage of reviewing the knowledge of every scientific subject from time to time because advances in one branch often led to progress in others which appeared at first sight to be remote from it. The recognition and treatment of syphilis, he said, had occupied a disproportionately large amount of attention ever since the introduction of the disease into Europe at the end of the fifteenth century, partly on account of its manifest effects on the bodies of patients and partly because its advent was coincident with a very active period in the intellectual life of Europe which made men accurate observers and careful recorders of everything that was new to them. The diagnosis and treatment of syphilitic disease of the bones and joints had been greatly helped by progress in optics, leading to the production of better microscopes, by advances in physics resulting in the discovery of the Roentgen rays, and by the rapid progress of pathology, itself based on physics, chemistry, and biology, which had led to the discovery of the spirochæta pallida as the essential micro-organism causing the disease. Mr. Power then pointed out that histology enabled cases of tumor albus or white swelling of joints to be classified as tuberculous and gummatous. The distinction between these two forms was thought at first to be absolute and the text-books accordingly described the signs and symptoms of the two conditions as being entirely distinct. They failed to take any account of an intermediate form which was neither wholly tuberculous nor entirely gummatous but appeared to be a tuberculous infection of the joints occurring in those who had inherited syphilis. Reference was made to two cases of this nature, the one occurring in a boy, aged 14 years, and the other in a man, aged 38 years. Mr. Power thought himself justified in asserting that it was now necessary to form a series of intermediate groups due to the microbic infection of tissues the character of which had been modified by the action of the spirochæta pallida. Tubercle and syphilis formed, he said, the most frequent combination leading to chronic disease of the joints, but some varieties of pneumococcus and staphylococcus showed a special liability to invade syphilitic tissues, whilst an attack of influenza often proved the starting point of a gummatous arthritis in syphilitic patients. But in all this there was nothing very new, he said, for it had always been recognised that phagedænic inflammation was frequent in syphilitic patients, whilst the occurrence of cancer of the tongue in those who suffered from syphilitic leukoplakia was notorious. The Roentgen rays had enabled peritonitis might occur from bursting of the abscess or extension from the underlying ulcer. The chronic form was usually diffuse and arose from spread of inflammation from neighbouring organs or the mucous lining of the bowel. The latter form where the inflammation infiltrated through and involved all the coats of the bowel generally occurred in the ascending colon or the iliac colon. The latter situation was most frequently affected and the disease had been known as perisigmoiditis or pericolitis sinistra. Of this form Dr. Lloyd Roberts had met with nine cases, four in men and five in women—six of the nine occurring between the ages of 21 and 26 years. He then described the clinical history and the physical signs and suggested that the cause lay in a late origin and narrowness of the mesentery of the pelvic colon, owing to which the bowel became kinked near the bony brim of the pelvis. The medical treatment consisted of administering intestinal antiseptics, external application of mercury and belladonna, and, most important of all, daily douching of the colon with hot antiseptic douches which should be persevered with for many weeks. Patients should be warned of the risk of recurrence should constipation again occur.—Dr. A. G. Gullan confirmed the statement that pericolitis sometimes resembled malignant disease and quoted a case in point.—Mr. Keith W. Monsarrat and Dr. W. Blair Bell also took part in the debate.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 1st, Dr. J. Walker Downie, the President, being in the chair.—Dr. James Adam read a paper on the Pathology and Treatment of Atrophic Rhinitis. Atrophic rhinitis, he said, was the end-stage of hyperplastic purulent rhinitis—i.e., of a septic process in which infiltration of round cells went on to fibrosis and in which there was already in the hyperplastic stage metaplasia of the epithelium. The following facts supported this view: the frequence of purulent hyperplastic rhinitis in the children of mothers suffering from atrophy and ozæna, the histological changes of atrophy in these cases and the same changes in the turbinals of cases of simple chronic sinusitis, and also the frequency (over 50 per cent.) of sinusitis in both stages of the disease. Sinusitis should be suspected in every case and negatived only after repeated careful examination. Sphenoidal sinusitis was very frequent with atrophic pharyngitis. Hypertrophic rhinitis was histologically quite distinct and did not go on to atrophy. Ozæna was merely an accidental symptom. Treatment by paraffin injection and by ionisation gave good results, but the best treatment was that of the hyperplastic stage in the young and the early treatment of sinusitis.—Mr. J. H. Pringle showed a patient on whom he had performed inter-ilio-abdominal amputation for sarcoma of the ischium under spinal analgesia by means of stovaine. The stump was now firmly healed and there was no hernia.—Dr. T. K. Monro and Dr. Leonard Findlay showed preparations from a case of General Tuberculosis with Diffuse Spinal Meningitis and Tuberculous Nodules in the Medulla and Cord. An extensive ascending degeneration had resulted from a nodule in the lumbar region and the meningitis. The nodule in the medulla had almost entirely destroyed the left olivary nucleus and had affected to a slight degree the pyramidal bundle on that side. The fact that the mischief was limited to the olivary nucleus and its immediate neighbourhood rendered the case eminently suitable for the study of the course of the much-debated cerebello-olivary fibres. These fibres were, excepting to a very slight degree, only degenerate in the immediate circumference of the nodule, so that it would appear that for the most part this bundle was descending in type.—Dr. Monro reported a case of Rheumatic Hyperpyrexia successfully treated by the cold bath.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held at Paddington Green Children's Hospital on May 7th, Mr. D'Arcy Power, the President, being in the chair.—The following clinical cases and specimens were shown and discussed:—Dr. Leonard G. Guthrie: (1) A case of Cerebral Diplegia in a child, aged four years, the onset of which was after an attack of measles at the age of two years. 2. A case of Cirrhosis of the Liver in a child, aged 10 years, with marked ascites; there was no evidence of congenital syphilis. 3. A case of Obliterating Endarteritis in a woman aged 42 years. The arteries of the right upper extremity were affected and no pulse could be felt. Pain and coldness of the affected limb were present and there had been troublesome whitlows. There was symmetrical malformation of the clavicles.—Dr. G. A. Sutherland: A case of Sclerodermia which had followed a recent attack of measles.—Dr. F. S. Langmead: (1) A series of cases of Congenital Malformation of the Nose ("Frog Nose") occurring in members of one family; (2) three cases of Mongolian Imbecility; and (3) a case of Tetany associated with Dilatation of the Large Intestine.—Mr. J. Keogh Murphy: (1) Cases of Tuberculosis of the Tarsus with skiagrams by Mr. A. D. Reid; (2) a case of Ischæmic Paralysis; and (3) a case of Vesical Calculus with skiagram.—Mr. Arthur Edmunds: (1) A case of Spina Bifida; (2) a case of Imperforate Anus which had been successfully operated upon; (3) a case of Hypospadias; (4) a case of Exostoses of Scapulæ and Ribs; and (5) Pathological Specimens.—Mr. M. S. Mayou: A case of Optic Neuritis in one eye due to retrobulbar inflammation.—Dr. G. de B. Turtle: Three cases with marked Eustace Smith's Murmurs. In one of the cases there were signs of enlarged tuberculous glands in the superior mediastinum with distension of veins over the upper part of the chest and characteristic cough.—Mr. E. Laming Evans: A case of "Fragilitas Ossium." There had been 12 fractures involving the right humerus and both femora. There was great deformity of the limbs and false joints had formed. Skiagrams were shown.—Dr. W. H. Willcox: A case of Congenital Dislocation of the Hip.—The cases were discussed by the President, Sir John Broadbent, Mr. E. M. Corner, Mr. Laming Evans, Dr. Guthrie, Dr. Sutherland, Dr. Langmead, Mr. Murphy, Mr. T. Crisp English, and Dr. Willcox.

Reviews and Notices of Books.

The Bacteriology of Diphtheria, including sections on the History, Epidemiology, and Pathology of the Disease, the Mortality caused by it, the Toxins and Antitoxins, and the Serum Disease. By F. LÖFFLER, M.D., LL.D., ARTHUR NEWSHOLME, M.D. Lond., F.R.C.P. Lond., F. B. MALLORY, M.A., M.D., G. S. GRAHAM-SMITH, M.A., M.D., D.P.H. Cantab., GEORGE DEAN, M.D. Aberd., WILLIAM H. PARK, M.D., and CHARLES F. BOLDUAN, M.D. Edited by G. H. F. NUTTALL, M.D., Ph.D., Sc.D., F.R.S., Quick Professor of Biology in the University of Cambridge, and G. S. GRAHAM-SMITH, M.A., M.D. Cantab., University Lecturer in Hygiene, Cambridge. Cambridge: University Press. 1908. Pp. 718. Price 25*s.*

THIS work marks a new departure in bacteriological literature. It is an attempt to present in one volume an account of the bacteriology of diphtheria complete up to the present date and it interprets the term bacteriology in so liberal a spirit that it includes the epidemiology and pathology of the disease and, indeed, almost everything except strictly clinical details and methods of treatment other than those based on bacteriology. The constant advance made in scientific research renders it a task difficult of accomplishment, but there can be no doubt as to the usefulness of the attempt, and the editors and authors of the work are to be congratulated on the success of their efforts. The appearance of this book has a further importance in that should it be successful it will be the first of a series of works having similar aims which will be published by the Cambridge University Press. The relations existing between the Universities of Oxford and Cambridge and their respective presses are rather elusive but a series of publications such as that proposed would seem to be one which a university press might well undertake and which would reflect credit upon it even if it should not prove to be a very profitable undertaking. The kind of completeness at which the editors have aimed is indicated in their preface when they hope that "the reader will seldom find it necessary to refer to the original papers" though a full bibliography forms part of the volume. While sympathising with this desire as indicating the thoroughness of the work, yet it can never be forgotten that there is an bronchitis with profuse or fœtid expectoration; galbanum and asafœtida for the relief of intestinal distension, so often a distressing symptom in failing heart; antimony in acute affections of the respiratory membranes; and lastly musk, which had apparently in two instances saved lives which in typhoid fever appeared to be on the brink of the grave.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 7th, Mr. H. H. Taylor, the President, being in the chair.—Dr. Walter Broadbent showed a man, aged 56 years, with Amnesia; he understood all that was said to him, but in talking only very rarely used a noun, and then accidentally rather than intentionally; he could not name anything at sight, but when the name was given said "Yes," and could repeat it; he could only rarely name a letter of the alphabet, often saying numerals instead; he could not read or understand print or writing, but could copy correctly print into writing, and write from dictation if the words did not exceed two syllables; he could play the piano without music, but if he tried to read music he could only play single notes, though he had formerly read music easily. The lesion was thought to be a hæmorrhage between the visual and the naming centres beneath the angular gyrus; there was no paralysis. He also showed a child, aged eight years, whom he admitted to hospital in January in a semi-comatose condition, with headache, vomiting, and double optic neuritis, and paralysis of the left sixth nerve and exaggerated knee-jerk and Babinski reflex on the right side. The child now appeared perfectly well, the external rectus moved well and the optic neuritis was subsiding; very large veins had developed in the middle of the forehead. The lesion was thought to be a tuberculous tumour in the wall of the left cavernous sinus. He also showed a boy who for four years had had enlarged glands in various parts and three months ago began to develop small scattered subcutaneous tumours, microscopically lympho-sarcomata.—Dr. C. F. Bailey showed a man with marked Locomotor Ataxy but with unequal pupils and tremor of the lips and tongue and hands; there were no delusions but the question arose whether general paralysis was supervening on ataxy.—Dr. R. Sanderson read notes and showed specimens from two cases of Malignant Disease of the Ovaries followed in less than six months by malignant disease of the uterus. In both cases he had removed both ovaries for cystic disease, discovered microscopically to be malignant; in the first case uterine symptoms had caused him to remove the uterus five months later, when advanced carcinoma was found. On the strength of this experience he had removed the uterus in the second case six months after the original operation, though the woman was fat and well except for a recent slight vaginal discharge, and carcinoma was discovered. He therefore advised immediate removal of the uterus as well as both ovaries when there was malignant disease of an ovary.—Dr. J. F. Gordon Dill read notes of an obscure case of Mastoid Disease resulting in Thrombosis of the Lateral Sinus and Suppurative Meningitis.—Dr. E. Hobhouse and Mr. Stephen Paget made some remarks advocating the formation of a local branch of the Research Defence Society. —Dr. C. H. Benham read an interesting paper on the Epidemic Catarrhal Fevers of 1907-08, illustrated by lantern slides. He found that the prevailing organism had been a micrococcus tetragenus, and that the bacillus septus of two years ago was less common; the micrococcus catarrhalis took a secondary place and the influenza bacillus was not found.—Dr. R. W. Allen gave an account of his work on the treatment of Colds by Bacterial Vaccines.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 1st, Dr. J. Allan being in the chair.—Dr. J. B. Hellier described the case of a woman, aged 42 years, who had suffered from symptoms of Osteomalacia for six years and whom he had delivered by craniotomy in 1906. The pelvis was contracted and rostrated with a true conjugate of about two and three-quarter inches. In June, 1907, he performed Cæsarean section with oöphorectomy and the relief to the symptoms of osteomalacia had been very decided. He discussed the etiology and distribution of the disease and the treatment by suprarenal extract and, if this failed, by oöphorectomy. In performing Cæsarean section he considered that it was not necessary in the interests of the mother to wait till labour began, but in the interests of the child it was better to do so. Otherwise there was considerable danger of terminating utero-gestation prematurely and so of delivering a child of less weight and vitality than would be secured by waiting till the full term which was notoriously difficult to calculate exactly. —Dr. E. F. Trevelyan read a paper on Epilepsy based on 100 more or less selected cases. Psychical epilepsy was met with alone in a woman, aged 51 years, and combined with minor attacks in a man, aged 39 years. In a female, aged 23 years, showing a mixed seizure type, somnambulism was observed. A case of otherwise unexplained narcolepsy in a boy, aged 14 years, was looked upon as probably epileptic. In an undoubted epileptic, aged 30 years, attacks of painful tonic spasm without loss of consciousness were observed. Serial epilepsy was seen in not a few cases. In a woman, aged 50 years, with apparently true Jacksonian epilepsy and aphasia no lesion was found after death. Among cases of so-called reflex epilepsy was a girl, aged 19 years, with almost innumerable minor attacks and marked astigmatism. Suitable spectacles produced some improvement but the ultimate result was still doubtful. Migraine and epilepsy were noted in two cases and a case of psychical megrim in a man, aged 30 years, with an epileptic father, was mentioned. Whenever possible the time of occurrence of the fit should regulate the treatment. Chronic epilepsy with at all frequent fits should be dealt with in epileptic colonies. Suitable treatment in genuine traumatic epilepsy and in so-called reflex epilepsy should be adopted before the epileptic habit became stereotyped.—Mr. R. Lawford Knaggs showed a specimen of Strangulated Prolapse of the Cæcum and Ileo-cæcal Valve through a typhlotomy opening.—Dr. J. H. Lamb showed a specimen of Ruptured Spleen without history of injury. The patient had been found in bed in a collapsed condition and died very soon. Microscopic examination showed nothing but fibrous capsulitis of the spleen.—Mr. H. Secker Walker exhibited two Eyes showing Panophthalmitis occurring in cases of pyæmia: (1) from a case of septic arthritis of the knee; and (2) from a crush of the hand; in this case both eyes were affected.—Dr. T. Churton and Mr. H. Littlewood showed a case of Extirpation of Aneurysm of the Left Common Carotid Artery.—Mr. A. L. Whitehead showed a patient in whom Tuberculous Keratitis had been treated by injections of tuberculin with emulsion of bacilli. A vascular growth appeared in the lower part of the cornea in September last and steadily increased in size with the formation of some outlying nodules in spite of all treatment, local and general, with open-air life. A month ago tuberculin injections were commenced, the opsonic index being 0·68; reaction followed the first injection but not the subsequent ones. The growth in the cornea rapidly diminished in size after the first injection and has now almost disappeared, leaving only a cicatrix. —Dr. W. H. Maxwell Telling and Mr. Littlewood showed a case in which partial hepatectomy had been performed for an Actinomycotic Nodule in the Liver adherent to the Omentum. At the operation other nodules were noted in the liver. The patient appeared to be doing well on iodide of potassium, of which she had been having six drachms daily for many weeks without the slightest discomfort.—Cases and specimens were also shown by Mr. W. Thompson, Dr. T. Wardrop Griffith, Mr. Littlewood, Professor A. S. F. Grünbaum, Dr. W. Edgecombe, Dr. Hellier, and Dr. Allan.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on April 30th, Mr. T. H. Bickerton, the President, being in the chair.—Mr. Colin Campbell read a case of Abscess of the Lung following Pneumonia successfully treated by intra-tracheal injections of izal.—Dr. J. Lloyd Roberts read a paper on Chronic Colitis with special reference to Pericolitis Sinistra. He expressed the opinion that this affection was more common than generally thought and deserved more attention. Pericolitis might occur in an acute or chronic form. The acute was usually circumscribed and arose from ulceration of the mucous membrane of the colon, which might be stercoral, traumatic, tuberculous, dysenteric, typhoid, or malignant in character. It spread through the walls of the bowel and led to circumscribed tumours outside and in contact with them. These tumours had often been mistaken for malignant growth. Occasionally the inflammatory product spread round the bowel and caused obstruction. These tumours were capable of resolution under appropriate treatment, as occurred in two cases of which details were given. Occasionally they suppurated and formed abscesses which burrowed along the length of the bowel. Two cases were mentioned in which abscesses were diagnosed and opened one near the splenic flexure and one in relation to the iliac colon. Rarely

In Section III. will be found a consideration of the myopathies (muscular dystrophies), an important group of cases presenting interesting peculiarities.

Section IV. comprises the diseases of the spinal cord. The author adopts the convenient practical division of system lesions and non-system lesions, so classifying the diseases according to the anatomical distribution of their lesions. This plan forms a useful working basis and serves as an aid to memory. In the chapter on locomotor ataxy he gives an able summary of the three main hypotheses concerning the causation of the disease. That the disease is due to (1) syphilis, acting indirectly by lowering the vitality of the nerve fibres, and not through any of the processes which are recognised as belonging to the secondary or tertiary stages of the disease; (2) syphilitic thickening of the membranes round the posterior roots, by which the nerve fibres are constricted and destroyed; and (3) the products of a bacillus closely resembling the diphtheria bacillus (Klebs-Löffler). The author points out that the acceptance of the third hypothesis is not necessarily antagonistic to the truth of the first, for syphilis may prepare the way for the invasion of other toxins, and he considers that there is strong evidence in support of this view.

Organic diseases of the brain are described in Section V., the localisation of cerebral tumours receiving especial attention. The sixth and last section is occupied with a description of diseases of functional and general origin. Epilepsy and its treatment forms an important subject, the therapeutic aspect being well discussed. The remarks on neurasthenia are also worthy of note, the clinical phenomena being well portrayed.

The book is excellently illustrated; a large number of the photographs are from cases which have been under the author's own care and are beautifully reproduced, and others have been supplied by Professor Pierre Marie and Mr. J. Bland-Sutton. We can recommend this work not only to students but also to practitioners as one in which a vast amount of information is contained in a readable form and from which much knowledge with regard to the clinical aspect of diseases of the nervous system and full instruction as to treatment may be readily obtained.

Syphilis in the Army. By Major H. C. FRENCH, R.A.M.C. London: John Bale, Sons, and Danielsson, Limited. Pp. 126. Price 6s. net.

THIS interesting work is an amplification of a former memorandum published in India and forwarded by the author in July, 1903, to the War Office, regarding the urgent necessity of revising the collection of statistics dealing with venereal diseases in the army. Certain writers have attempted to prove "that the history of the Contagious Diseases Acts in Hindustan shows that they have increased the amount of syphilis to an alarming extent amongst our unfortunate celibate troops." How such an opinion can be promulgated by any medical writer who possesses an unbiased mind is beyond comprehension. At any rate, the numerous statistics collected in this admirable work distinctly prove the contrary. The effect of preventive measures in India from October, 1898, up to the present date, unquestionably demonstrates the good effect of control to all unbiased persons. But all sources of error in the collection of venereal statistics in the army must be obviated by a correct nomenclature. The more exact diagnosis of primary syphilis and soft chancre is essential; an accurate record of readmission into hospital due to relapse of cases of secondary syphilis must be kept, showing that they are readmissions. In India the Lock Hospital system was in force from 1865 to 1884; it was partially suspended in 1884 and was abolished in 1888. From 1888 to 1898 there was consequently a marked increase of venereal prevalence. The army sanitary committee in March, 1897, acknowledges the effect of the former Acts in India in "checking not only the increase of syphilis but also the severity of the disease itself."

The home Government, however, was influenced to abolish the necessary precautions taken for the well-being of the British soldier in India by the sensational reports of certain American ladies visiting India; the result was that so great an amount of preventable disease broke out that, after a few years, the new order from home resulted in a daily amount of venereal disease in hospital equivalent to the strength of three British regiments. The order had to be modified.

Major French shows in his work the method of prevention in Indian cantonments and makes some wise remarks concerning the new messing regulations, whereby the men becoming possessed of a sum of hard cash have money to spend in brothels, and he incidentally draws attention also to the case of enteric fever contracted at the same time as venereal disease. He advocates rewards to men showing a clean medical history sheet over a fixed period as regards these affections. Next, the subject of prevention by administrative methods in military hospitals, barracks, and prisons is considered, and, finally, treatment is very fully gone into. Inunction, injection, and administration of mercury by the mouth, treatment by iodide of potassium, and the Zittmann method are all considered and criticised. Lastly, the work ends with the inclusion of various valuable appendices; we may draw especial attention to Appendix V., showing the excellent effect of control under the Cantonment Act of October, 1897. In 1897, when this was not in vogue, there were 106·2 cases per 1000 of secondary syphilis; by 1904, when the Act had been in operation for six years, there had been a regular yearly decrease of admissions to 46·7 per 1000.

LIBRARY TABLE.

The Bombay Bacteriological Laboratory for the Preparation and Use of the Anti-plague Vaccine. Printed at the *Bombay Times* Press. 1907. Pp. 39.—This excellent pamphlet has been prepared for the use of those who are called upon to carry out measures for preventing the spread of plague in India. It has been written after a prolonged and extensive experience of the disease now extending over ten years. Hence the details of the facts put forward are invested with some authority. The laboratory has fully justified its existence. Originally started by that benefactor to India, Mr. Haffkine, the discoverer of the anti-plague vaccine, on Oct. 8th, 1896, a fortnight after plague had been officially declared to exist in Bombay, it has grown from a small institution to one of considerable dimensions. It was for some time known as the *Plague Research Laboratory* but now its name has been changed into that of the Bombay Bacteriological Laboratory, a wider field of investigation and research being undertaken at the institution. Here Mr. Haffkine first elaborated his "plague prophylactic" which has saved the lives of many thousands of human beings; here, also, were made the discoveries in connexion with the etiology of plague by a commission working on the facts and materials accumulated after ten years of patient research and labour on the part of the staff of the laboratory. Whilst India has been sorely smitten by this disease she has nevertheless been the leader in advancing our knowledge of its cause and prevention, and this laboratory has played no small part in the attainment of this position. The brochure opens by detailing the facts to be borne in mind when determining the anti-plague measures to be adopted. These may be classed into (1) measures of permanent utility affecting the habits of rats and of men bringing about the association of one with the other; and (2) measures of temporary utility, such as the destruction of rats, evacuation, and inoculation. Next is demonstrated the effect of inoculation with anti-plague vaccine, and here we find detailed the educational value in a direct acquaintance with an important original paper which is lost in even the best of abstracts or reviews.

The nucleus of the book consists in the section contributed by Dr. Graham-Smith, which has in great part already appeared in the *Journal of Hygiene*, also published by the Cambridge Press. Around this nucleus have been grouped a history of diphtheria written by Professor Löffler, than whom none is more fitted for the task; a section on the epidemiology of the disease, by Dr. Arthur Newsholme; a section on its pathology, by Professor Mallory, based largely on a monograph by Councilman, Mallory, and Pearce; a very valuable contribution by Dr. G. Dean on toxins and antitoxins; and, finally, a section by Dr. William H. Park and Dr. C. F. Bolduan on mortality and serum sickness. The editors are to be congratulated on having secured such contributors, and the list of names makes it evident that the reviewer can only profitably concern himself with the general aims of the book and not with the statements made. The method of the book makes detailed review still less necessary, as the well-established facts are given definitely and briefly; controversial matters are discussed at length with the arguments on both sides; and finally, full references are given to the authorities for the statements which are made. The editors have not been able to secure absolute agreement amongst their contributors, especially in the two sections which deal with the epidemiology of the disease, and there is some repetition, as in two sections besides that devoted to the history there are short historical accounts. This may have arisen from the desire to make each section complete in itself.

The section by Professor Löffler is of great interest and is marked by Teutonic thoroughness. The part played by Francis Home in defining and calling attention to the disease is fully appreciated and, as might be expected, the history of the bacteriology of the disease is most complete. In the epidemiological section Dr. Newsholme develops his conclusions as to the relation existing between rainfall and diphtheria epidemics, conclusions which are by no means accepted by the contributors of the last section of the book and which seem to be in contradiction with the conditions existing in the epidemics studied by Bretonneau and his contemporaries. Professor Mallory deals in his section with the lesions found in the various tissues and organs of those suffering from the natural and experimental disease. Dr. Graham-Smith's section deals fully with the variable morphology of the diphtheria bacillus and with the differential characters of its cultures. There is also a valuable discussion of the very numerous diphtheria-like organisms which, as workers in clinical laboratories know to their cost, are found in all kinds of secretions and are liable to give rise to errors of diagnosis when, as is usual owing to the exigencies of practice, diagnosis rests on morphological appearances alone. This question has acquired fresh importance since it is evident from recent literature that the relation of human diphtheria to similar diseases in the lower animals is not so definitely settled as is desirable. To the medical officer of health and the physician the detailed accounts of the investigation of various epidemics, chiefly in the eastern counties, and of the preventive measures suggested and adopted, will prove of much interest and value.

The section by Dr. Dean is one of the most valuable in the book and is characterised by the care and thoroughness which mark all the contributions to science of this observer. It contains original work and personal experience gained in the superintendence of the serum department of the Lister Institute and in addition to its proper subject of diphtheria toxins and antitoxins necessarily trenches on general questions of immunity. The serum sickness dealt with by Dr. Park and Dr. Bolduan is a very interesting subject which is, however, still in a very early stage of investigation and far from being fully elucidated. Portraits and short biographical notices of Bretonneau, Löffler, Behring, and Roux add to the interest and completeness of the volume.

The book is of somewhat imposing size and is neatly bound in dark-blue canvas. It is well and clearly printed on good paper and contains a considerable number of well-reproduced illustrations. There is a mistaken reference on p. 487 and an error of more importance occurs in the explanation of the method of reference adopted in the bibliography, though the error is easily corrected. The bibliography is very complete and there is a good index.

Diseases of the Nervous System. By H. CAMPBELL THOMSON, M.D. Lond., F.R.C.P. Lond., Physician to Out-patients at the Middlesex Hospital; Dean of, and Medical Tutor in, the Middlesex Hospital Medical School; Physician to the Bolingbroke Hospital and to the Hospital for Epilepsy and Paralysis, Maida Vale. With 8 coloured and 12 black-and-white plates and 101 figures in the text. London: Cassell and Co., Limited. 1908. Pp. 480. Price 10*s.* 6*d.*

A STUDY of the diseases of the nervous system presents considerable difficulties to the student. These difficulties mainly arise from the variety and multiplicity of the symptoms, the pitfalls that readily occur in differential diagnosis, especially in distinguishing between functional and organic disease, and the long and uncertain course of some of the affections coming under this head. In the volume now before us Dr. Campbell Thomson has attempted to marshal, more especially for the benefit of students, the main facts of neurology in a concise and readable manner. After a careful perusal of the work we are able to congratulate the author on the success of his endeavours. Without wading through pages of controversial matter or being confronted with profound propositions in etiology and pathology, the student is able to obtain clear ideas as to the causation, morbid anatomy, symptoms, clinical course, diagnosis, prognosis, and treatment of diseases of the nervous system.

The first section of the book is introductory and gives a brief but comprehensible account of the general structure of the nervous system, together with chapters on the reflexes, rigidity, and contractures, and some remarks on electrical reactions. Some observations are also offered on lumbar puncture. Dr. Campbell Thomson states that by examination of the cerebro-spinal fluid lymphocytosis can often be demonstrated in the early stages of general paralysis of the insane, tabes dorsalis, and syphilitic diseases of the nervous system. It has also been found in disseminated sclerosis and anterior poliomyelitis. We agree with the author in the opinion that undue stress must not be laid on this method of diagnosis, and in all doubtful cases the results should be carefully considered in conjunction with the other phenomena before a decision is arrived at. Dr. Campbell Thomson very properly lays stress on the importance to students of distinguishing between lesions affecting the upper and lower neurons respectively, and gives a summary in tabular form of the differences to be observed. The advantage of this table is that the student will find in it the basis of all the symptoms which depend upon loss of power, and instead of endeavouring to remember a different set of points for every individual instance he can apply the general principles to any particular case and then supply the details as required.

Section II. is concerned with the peripheral nerves, and a good account is given of paralysis of cranial nerves and of paralyses of the upper and lower limbs. The chapter on multiple neuritis is well worthy of study, the descriptions of the symptoms due to the action of alcohol, arsenic, and lead being clear and precise.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. April, Vol. I., No. 6.—These proceedings continue to maintain their level of excellence. The present number is largely concerned with accounts of cases, many of which have been reported in our columns, the Clinical, Dermatological, Laryngological, Neurological, and Odontological sections each contributing cases of great interest. In the Epidemiological Section an important discussion on the Etiology and Epidemiology of Enteric Fever is opened by Dr. E. C. Seaton and continued by Dr. D. S. Davies with Dr. I. Walker Hall, who deal with Typhoid Carriers, by Dr. H. M. Richards with Dr. J. A. H. Brincker dealing with the Potential Dangers of Waters derived from Wells in the Chalk, and by Dr. W. H. Hamer who writes on the Relation of the Bacillus Typhosus to Typhoid Fever, papers which are followed by a report of the general discussion. Two papers are communicated to the Medical Section; the first is by Dr. G. S. Shattock and Dr. Arthur Latham and deals with Phagocytosis, especially in reference to infectious disease, the observations having been made by means of melanin. The second is by Dr. Latham and is a preliminary communication upon the Administration of Tuberculin and other Vaccines by the Mouth, a subject of considerable interest. In the Obstetrical and Gynæcological Section, besides the reports of cases, papers are contributed by Dr. W. C. Swayne on Abdominal Myomectomy during Pregnancy, by Dr. John H. Dauber upon Pregnancy complicated by Large Myomata, and upon a case of Difficult Labour by Dr. H. Russell Andrews with Dr. R. Drummond Maxwell. In the Dental Section Mr. E. Sturridge deals with the treatment of Pyorrhœa, and the discussion upon Mr. J. F. Colyer's recent paper dealing with the Treatment of Children from the Dental Aspect is reported. In the Otological Section Mr. C. E. West and Mr. Sydney R. Scott together write upon the Operative Surgery of Labyrinthitis, and Mr. H. H. B. Cunningham upon Deafness resulting from Epidemic Cerebro-spinal Meningitis. In the Pathological Section Mr. C. E. Walker treats of the Influence of the Testis in the Secondary Sexual Characters of Fowls, and a discussion on the Relations of Endotheliomata to Other Forms of New Growths is opened by Dr. W. S. Lazarus-Barlow and continued by Mr. L. Cortauld with Mr. A. Leitch and Mr. Cecil W. Rowntree. The Surgical Section is devoted to Mr. A. E. J. Barker's paper upon the Possible Uses of Lumbar Puncture in the Treatment of Otitic Meningitis, whilst the Therapeutical Section is occupied with a paper on Hypnotism by Dr. J. Milne Bramwell, which includes a historical summary of the therapeutic employment of that much-debated measure.

Ophthalmology. Vol. IV., No. 3. April, 1908. H. V. WÜRDEMAN, Managing Editor, Milwaukee, Wis., U.S.A. Issued quarterly. London: George Keener and Co. Annual subscription £1 1*s*.—The original articles contained in this number of *Ophthalmology* are: 1. Report on Three Cases presenting Ocular Manifestations of Tertiary Syphilis in Coloured Subjects, by W. Campbell Posey and Frederick Krauss, M.D., of Philadelphia. One of these cases exhibited syphilitic arteritis of the retina with optic atrophy; the second, cerebro-spinal syphilis with complete palsy of the left oculo-motor and trochlearis nerves—this case rapidly improved under antisyphilitic treatment; and the third case showed complete palsy of the third nerve, with cessation of head pain with the concomitant appearance of double vision. 2. The Centume System, the Percentage or Nomenclature of Angles, by Ernest E. Maddox; a valuable suggestion. 3. Insufficient Pigmentation as a Cause of Eye Diseases, by Charles E. Woodruff, M.D. 4. Remarks on Vibratory Massage in Eye Diseases, by Leartus Connor, M.D. This method of treatment is said to be useful even in glaucoma. 5. Morax Axenfeld Conjunctivitis, an analysis of 300 cases, by Hanford McKee, M.D. 6. The Evil Eye among the Hebrews, by Aaron Brav, M.D.; an interesting article showing considerable research. 7. Verhoeff's Astigmatic Charts. 8. The Relation of the Eye and the Nose, by Harry Caldwell Parker, M.D. In addition are numerous abstracts from recent ophthalmic literature and brief reviews of books.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., ALEX. MACALISTER, D. J. CUNNINGHAM, ARTHUR THOMSON, and ARTHUR KEITH. Vol. XLII. Third series, Vol. III., Part 3. April, 1908. London: Charles Griffin and Co. Published quarterly. Annual subscription, £1 1*s*., post free.—The articles contained in this number are: 1. A description of a Human Embryo of 13-14 Mesodermic Somites, by Dr. Alexander Low. 2. Studies in the Anatomy of the Pelvis, with special reference to the fascia and visceral supports, by Professor G. Elliot Smith, F.R.S. (Part II.). 3. The Brains of Aboriginal Natives of Australia in the Anatomy School, Cambridge University, by Dr. W. H. Duckworth (Part III.). 4. The Development of the Spleen, by Marion Radford. 5. The Comparative Anatomy, gross and minute, of the Thyroid and Parathyroid Glands in Mammals and Birds, by Dr. David Forsyth (Part II.). 6. Imperfect Torsion of the Intestinal Loop, by Dr. Douglas G. Reid. 7. The Derivation of the Human Hypothenar Muscles, by Mr. J. Ernest Frazer. 8. The Cameragraph; a Drawing Apparatus, by Evelyn John Evatt. 9. Two Cases of Normaphroditism, by Dr. Strickland Goodall. 10. A Case of Fusion of the Semilunar and Cuneiform Bones (Os Lunato-Triquetrum) in an Australian Aboriginal, by Dr. S. A. Smith. There are in addition to the above articles some Anatomical Notes on the Small Vermiform Appendix, by Mr. Sidney R. Scott; on an Abnormal Form of Duodenum, by Mr. Gordon Taylor; and on Meckel's Diverticulum, by Mr. F. G. Parsons.

The Biochemical Journal. Edited by BENJAMIN MOORE, M.A., D.Sc., and EDWARD WHITLEY. Vol. III., No. 3. April 16th, 1908. Biochemical Department, Johnston Laboratories, University of Liverpool. Pp. 57. Annual subscription, 15*s*.—This number contains the following original articles: 1. Observations on the Significance of the Hæmosozoic Value of the Blood Serum, by Captain D. McCay, I.M.S., Professor of Physiology, Medical College, Calcutta. The term hæmosozoic value of the serum has been made use of to indicate those constituents present in the serum which preserve the red blood corpuscles from solution. Captain McCay finds that the hæmosozoic value of the serum expressed in terms of NaCl corresponds with the total salt concentration. When the hæmosozoic value is increased above the normal it is a measure of the total salt concentration, and also of the presence of a substance which he believes to be an antihæmolysin. The lowering of the value is a factor in inducing an attack of blackwater fever. On the other hand, the raising of the value by the administration of chlorides, quinine, and so on, would appear to be prophylactic against that disease. 2. On Variations Observed in the Composition of Sodium Glycocholate Preparedby Different Methods, by W. C. Lewis, M.A. The author endeavours to show that as ordinarily obtained the salts of other acids probably, and chiefly sodium myristate, are present. 3. Notes on the Action of Atropine, Hyoscyamine, Hyoscine, Scopolamine, Duboisine, and Daturine, by Dr. W. Webster, anæsthetist to the Winnipeg General Hospital. Dr. Webster finds that there is no initial rise in blood pressure after the injection of solution of atropine beyond what would be caused by the injection of a corresponding amount of normal saline solution. The effect in the case of this series of drugs is always a fall of experience of towns, employers of labour, railway companies, military authorities, police, and jails. Then a popular account is given of the mechanism by which anti-plague vaccine effects a saving of life in the presence of plague, followed by a consideration of the question whether anti-plague inoculation should be carried out in the presence of the disease. The protection conferred by inoculation is stated to last to a slight extent even after five years. It is also shown that the practice gives rise to no disease and that it does not affect the health of those inoculated in any way injuriously. The method of preparing the vaccine is succinctly detailed, after which the immediate question of inoculation is taken up, including the symptoms produced by it, the dose of the vaccine to be employed and how to sterilise and to fill the syringe, and how to carry out the actual act of injection. The work though small forms a complete guide to the subject of which it treats.

The Pocket Osteology. By PHILIP TURNER, M.B., M.S., B.Sc. Lond., F.R.C.S. Eng., Demonstrator of Anatomy, Guy's Hospital. London: Baillière, Tindall, and Cox. 1908. Pp. 187. Price 3*s.* net.—The student preparing for his second professional examination who is wont to carry the recently re-named "Pocket Anatomy" in its appropriate receptacle will now be able to preserve the balance of his garment with a volume of identical size and form which is strictly complementary to his older *vade mecum.* Although Mr. Turner's pocket compendium of osteology is of no greater bulk than its predecessor it does not present quite so remarkable an effort of condensation as does that favourite epitome of the soft parts, on account of its more limited range of subject matter. This "Pocket Osteology" is admittedly produced by a boiling-down process from the various standard text-books, but it has been excellently done by a writer well qualified to do it who would be the last person to wish to replace those text-books. The absence of pictures renders reference to actual bones imperative for its intelligent employment, and if this were not the case we do not think the student would be tempted to use it except as an aid to revision. The man who attempted to "learn his bones" from this pocket-book alone would find in them a mental pabulum of intolerable dryness. It has a legitimate use as a supplement to the manuals in use in the dissecting-room.

Early Woodcut Initials. Containing over 1300 reproductions of ornamental letters of the fifteenth and sixteenth centuries, selected and annotated by W. OSCAR JENNINGS, M.D. Paris. London: Methuen and Co. 1908. Pp. 288. Price 21*s.* net.—All lovers of books owe to Dr. Jennings a debt of gratitude for his delightful storehouse of initial letters. The reproductions of these works of art are introduced by a scholarly preface in which Dr. Jennings describes the precursors of the wood-cut initial—namely, the illuminated initial. He does not mention one school, however, in which fancy and imagination, together with intricacy of design, yet with no confusion, were at their best, and that was the Mozarabic school of 800–1000 A.D. The British Museum possesses some liturgies of surpassing interest as to their initials which are well worth attention. The elaborate decoration of the initial letters occurring in early printed books by means of wood-engravings forms an interesting link between the centuries in which the multiplication of books was the outcome of monastic handicraft and often of remarkable art and our own days in which for the greater part it has drifted into strictly utilitarian channels, with a sad sacrifice of beauty to convenience. We are pleased to qualify this remark by saying that the book before us is a fine production of Messrs. Constable's press and is sufficient of itself to prove that the art of making beautiful books is not buried in the centuries, however the modern methods may differ from the old ones with which the book is concerned. It is quite obvious from a study of black-letter volumes that the original printers modelled their work on the manuscripts to which their fathers were accustomed; and as the exquisite elaboration and adornment of the capital letters formed, perhaps, the most striking feature of all illuminated and many plain manuscripts, it is not surprising that the pioneers of a mechanical process which was to replace the scribe should strive to reproduce his most remarkable achievements. By means of this book Dr. Jennings shows in what measure they succeeded. The charm of their work lies undoubtedly in the fact that although it entailed mechanical aid it was still primarily handicraft, for they drew and graved upon wood what the scribe drew and painted upon vellum. But whatever pleasure these pictured initials may give us, and many of them are excellent in design and execution, it cannot be compared with the surpassing delight afforded by the illuminated miniatures which fulfil the same office in the Missals and Horæ written in the thirteenth and fourteenth centuries. Nevertheless, the initials which Dr. Jennings has reproduced so liberally in his book form a collection which shows forth almost every phase of the artistic mind. We find conventional design endowed with elaborate beauty and Early German work breathing a piety and sincerity worthy of Blake himself; the influence of the Renaissance peeps out on other pages with its strange juxtaposition of paganism and Christian legend manifest in the pictures so ingeniously woven into or around the curious capitals; the fanciful is well represented, running often into the grotesque and on certain pages the formal verging on the ugly, whilst the luxurious over-elaboration of other specimens points to the rococo influence that played such havoc with post-Renaissance art. Dr. Jennings has derived his examples from the presses of Augsburg, Nuremberg, Basle, Lubeck, Strasburg, Geneva, Venice, Lyons, Paris, Rouen, and other towns. England is represented in four pages which as examples of art do not bear comparison with those devoted to the remaining countries. We know of no book which affords a more interesting and diverse catena of an important European handicraft during its best period, and we must add that Dr. Jennings's letterpress shows full information of a subject which has of necessity a limited appeal. It is, however, the work of an enthusiast who has the satisfaction of knowing that he has very literally enriched the year's output of the *belles lettres* in this country.

The Public Schools Year Book, 1908. London: Swan Sonnenschein and Co. Pp. 684. Price 3*s.* 6*d.* net.—This book is a useful addition to the reference shelf, giving compact information as to the staff and curriculums of the different public schools, a list of preparatory schools, and succinct information as to the gates of entry and prospects of success in the various professions. The chapter on the medical profession has been carefully done and gives in a summary form the information which parents and guardians might expect concerning the chances of their sons who embrace medicine as a career.

Herbert Fry's Royal Guide to the London Charities. Forty-fourth issue. Edited by JOHN LANE. London: Chatto and Windus. 1908. Pp. ix.-383. Price 1*s.* 6*d.* net.—This is the oldest publication of its kind dealing with the metropolis and contains an alphabetical list of the London charities, showing their date of foundation, address, objects, annual income, and chief officials according to their latest reports; a vast amount of information is summarised in convenient form. We note that the "London and Provincial Anti-Vivisection Society" and the Vivisection (National Anti-) Society are for some inscrutable reason included in the list of charities.

THE LANCET.

LONDON: SATURDAY, MAY 16, 1908.

The Administration of Bacterial Vaccines by the Mouth.

THE interesting and suggestive work of Sir ALMROTH E. WRIGHT and his co-workers has led to a greatly extended use of bacterial products or vaccines in the treatment of morbid conditions due to bacterial invasion and has established this form of treatment on a more assured and scientific basis than it had previously enjoyed. Whatever the exact and absolute practical value of the opsonic index may prove to be as a guide and control in administering vaccines for diagnosis and treatment, the impetus which it has afforded to their use constitutes a noteworthy achievement in rational and scientific medicine. At the same time it must be admitted that the frequent determinations of the opsonic index necessitated by a prolonged course of vaccine treatment involve an expenditure of time on the part of a skilled observer and an expenditure of money on the part of the patient which tend to hinder the wider employment of the treatment. Dr. ARTHUR LATHAM, in an interesting communication read before the Medical Section of the Royal Society of Medicine[1] on March 24th recording a series of observations made in conjunction with Dr. H. R. D. SPITTA and Dr. A. C. INMAN, maintains that the use of tuberculin and of other vaccines has not been adopted sufficiently, and suggests that this is due to the necessity for employing the hypodermic method of administration and for the frequent estimations of the opsonic index to which reference has already been made. Dr. LATHAM'S objects in his research were to overcome these difficulties and to simplify the technique of treatment by vaccines. Undeterred by the statement made by KOCH some years ago that tuberculin administered by the mouth would not confer immunity, he proceeded to administer it and other vaccines in this manner, arguing that they would probably be absorbed if given on an empty stomach together with some substance which would facilitate absorption, such as normal saline solution or horse serum. Dr. LATHAM further argued that, since there is now very strong evidence that some cases of pulmonary tuberculosis are brought about by the absorption of living bacilli from the alimentary canal, it was reasonable to suppose that the absorption of dead bacilli or of their products would likewise occur and that they would excite the protective mechanisms of the body. This assumption received important experimental confirmation in a paper by CALMETTE, GUÉRIN, and BRETON, published some two months after Dr. LATHAM commenced his own *clinical* observations, in which it was shown that the administration of specially prepared emulsions of dead tubercle bacilli conferred immunity on guinea-pigs, provided that the emulsion was not given together with food.

Dr. LATHAM'S paper contains records of a number of cases, 25 in all, of various infections, chiefly tuberculous, staphylococcal and pneumococcal, in which he administered appropriate vaccines by the mouth and sometimes by the rectum, together with normal saline solution or horse serum, and then studied the effects upon the clinical course of the cases, upon the temperature curve, and also upon the opsonic index. In the course of his observations many hundreds of opsonic index determinations were made by Dr. SPITTA and by Dr. INMAN, so that the laborious nature of the work is obvious, and Dr. LATHAM pays a well-deserved tribute to the assistance which he has received in this respect from his collaborators. We may briefly review some of the chief results claimed to have been obtained. In regard to the use of tuberculin only one form has been employed in this research—viz., tuberculin T.R. When given by the mouth, even in so small a dose as 1/10000th of a milligramme, together with normal saline solution or some other agent to facilitate absorption, it produces a definite effect upon the opsonic content of the blood. The negative phase produced after oral administration appears in general to be shorter and less marked than that after hypodermic administration, and the positive phase is also shorter, rarely lasting more than five days, often to be followed by a further short negative phase and a more prolonged positive phase. Coincidently with these changes there is an improvement in the clinical features of the cases if the doses of tuberculin are suitably administered so as to avoid overdosage or too frequent repetition. The temperature falls, the cough becomes less troublesome, expectoration is diminished, and the patient has a sense of well-being. A further noteworthy point is that in three cases with the inverse type of pyrexia the administration of tuberculin brought about a return to the ordinary type. Dr. LATHAM recommends that tuberculin should always be given on an empty stomach and best in the morning when the resistance is highest. In regard to dosage, he states that the investigations have not progressed to a sufficient extent to enable definite rules to be formulated but the condition of the patient and the temperature chart afford important indications. If the dose chosen does good the patient feels better and the temperature falls, while the other symptoms improve. If the dose is too large the patient quickly complains of headache, his appetite fails, and he becomes listless, though there may be but little rise of temperature. If the dose be much beyond what is needed there may be in addition a definite rise of temperature. The smallest dose given in these cases was 1/10000th of a milligramme and the largest was 1/200th. In some cases doses of 1/5000th of a milligramme or 1/1000th have been given on two or three successive days with good results. In febrile cases it is necessary to proceed with greater caution both in regard to the dose and to the frequency of administration than in localised or afebrile cases. It is of special importance to avoid any attempt to hurry on the treatment in these matters, since overdosage has in the past been responsible for the discredit which overtook the vaccine treatment by tuberculin after its first introduction. In regard to the administration of staphylococcal and streptococcal vaccines by the mouth it is claimed that the same results are obtained as on hypodermic injection the blood pressure. 4. A Note on the Distribution of the Salts in Hæmolysis, by Dr. Albert Woelfel, from the Hull Physiological Laboratory, Chicago.

---

[1] Proceedings of the Royal Society of Medicine, vol. i., No. 6., p. 195.

The Scottish Medical and Surgical Journal.—In the April issue is published the first instalment of an article by Dr. A. H. F. Barbour on the Frozen Sections made by Bumm and Blumreich and by Zangemeister and the question as to whether there is a lower uterine segment. Mr. David M. Greig records a case of Henoch's purpura which simulated intussusception; there were pain, vomiting, and diarrhœa, with passage of blood from the bowel and the presence of a palpable lump in the right iliac fossa. At the laparotomy this last was found to be due to "great congestion of the lower end of the ileum which projected as a distinct collar into the cæcum." Dr. J. Wallace Milne gives notes of a case of chronic intussusception in a girl, aged ten years, who recovered after resection of a portion of the bowel; and Dr. Norman Walker discusses the use of chrysarobin in psoriasis in a paper which is illustrated by a very good coloured picture of the untreated disease, as well as by some others showing the results of treatment.

The West London Medical Journal.—The April number of this quarterly journal contains an article by Dr. Andrew Wylie on the causes, pathology, and treatment of foul breath. Mr. W. H. Bowen writes on pneumococcal otitis media, and among other causes blames the too familiar "infant's comforter" for some instances of infection. An abstract of two lectures by Dr. Harold Pritchard on specific inoculation does not add much to our knowledge on this subject.

The Medical Chronicle.—Only one original article appears in the April number of this magazine. In it Mr. H. W. Bruce and Mr. H. H. Rayner record two cases of acute glanders. The second case was remarkable in that no connexion of the patient with horses could be traced. In both diagnosis was difficult, as the characteristic pustular eruption did not appear till late in the course of the malady.

Guy's Hospital Gazette.—In the issue for April 4th the most interesting article is one entitled, "Notes of a Roving Guy's Man," which deals with the writer's experiences in Berlin and gives an account of the methods there adopted for medical study and of some of the cases demonstrated by Professor Pels-Leusden. A dental clinical lecture by Mr. J. Lewin Payne deals with the treatment and filling of root-canals. In the following number (April 18th) is an account by Dr. Hertz of the hospitals of Paris, which is to be continued in the next issue. A clinical lecture by Mr. Ormond deals with cataract extraction and gives a tabular statement of the results of 50 consecutive cases.

St. Bartholomew's Hospital Gazette.—In the April number is published a lecture by Dr. H. Morley Fletcher on whooping-cough. By way of treatment he speaks favourably of creasote and cresolene for inhalation and of belladonna as the main drug for internal use. Antipyrin, bromoform, butyl, chloral, and liquid extract of grindelia are also useful. An abstract of a lecture on art and medicine, by Dr. Leonard P. Mark, contains some interesting reading and is illustrated by some reproductions of celebrated paintings.

St. Thomas's Hospital Gazette.—In the March number of this periodical is an interesting paper by Mr. Edred M. Corner on the modern treatment of fractures by means of direct internal splintage—that is to say, by wiring and so forth. It is illustrated by skiagrams showing the apparatus *in situ.*

The London Hospital Gazette.—In the March issue appears a clinical lecture signed "F. J. S." on the subject of medical hæmorrhage, with special reference to hæmatemesis and gastric ulcer. The indications for surgical interference are considered. May we suggest that members of a learned profession should not write *per orem* for by the mouth? Two unusual cases of injury to joints are recorded on another page—one of separation of the capitellum of the humerus and the other of dislocation forwards of the whole foot at the ankle-joint.

St. George's Hospital Gazette.—The March number opens with a further instalment of the paper on ancient medicine, which contains much that is of interest. A note on medical practice at sea, by Mr. Hamilton S. Faber, is also worthy of the attention of those who meditate "going down to the sea in ships" in the capacity of medical officers; it gives a by no means unattractive picture of the life and duties.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between May 2nd and May 8th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscriber of Five Pounds.

L. A. R. Wallace, London.

Subscribers of Three Pounds Five Shillings.

Glossop and District Medical Society Members, per Arthur Walker.

Subscriber of Two Pounds Ten Shillings.

Victoria Central Hospital Staff, per D. Malcolm Smith, Liscard.

Subscriber of Two Guineas.

Lieutenant Owen Berkeley Hill, I.M.S., Bangalore, India.

Subscribers of One Guinea.

Beaumont and Trevor, London.
Arthur Burton, Cromer.
Ernest Carter, Cheltenham.
Ernest H. Cartwright, Ticehurst, Suesex.
Henry W. Drew, East Croydon.
Theodore Duka, Bournemouth.
W. E. Nickolls Dunn, London.
George Fuller England, Winchester.
Thomas Evans Flitcroft, Bolton.
William T. Gardner, Bournemouth.
Thomas Fred Higgs, Dudley.
J. O. Hollick, Knowle, near Birmingham.
G. Wright Hutchison, Chipping Norton, Oxon.
Keighley and District Medico-Chirurgical Society, per Alfred G. Hebblethwaite.
G. Lloyd Jones, Cambridge.
G. A. Leon, Sidmouth.
Ernest C. Maguire, Brighton.
Gervase G. Newby, East Croydon.
W. G. Scott, *Newton Abbott.*
J. H. Sequeira, London.
J. O. Skevington, Windsor.
R. Percy Smith, London.
Charles Steele, Bristol.
J. Connall Wilson, Haworth, near Keighley.

Subscriber of One Pound.

Logan D. H. Russell, Bristol.

Subscribers of Half-a-Guinea.

M. D. French, Burslem.
M. Iles, Bhopal, India.
Thomas John, Swansea.
Walter J. Jolliffe, Shorewell, Isle of Wight.
A. Hill Joseph, Bexhill-on-Sea.
Launcelot E. Jowers, St. Leonards-by-the-Sea.
W. Lockwood, Worthing.
A. Angus Martin, North Shields.
J. W. Meek, London.
Gay Witton Miller, North Thoresby, S.O., Lincs.
William P. Morgan, Seaford, Sussex.
Joseph O'Connor, St. Anne's-on-the-Sea.
T. Richards, Cardiff.
T. W. E. Ross, Cardiff.

Subscribers of Ten Shillings.

Cary Coombs, Castle Cary, Somerset.
T. Muir Murdock, Edinburgh.
Elizabeth L. Walker Dunbar, Bristol.

Subscriber of Seven Shillings.

S. G. Champion, Bournemouth.

Subscribers of Five Shillings.

Thomas M. Callender, Sidcup.
Lincoln Hatch, Pinner.
J. S. Sewell, Horwich, Lancs.
William Taynton, London.
J. M. Whyte, Dundee.

Subscriber of Half-a-Crown.

T. H. J. E. Hughes, Meathop, Westmoreland.

DONATIONS AND BEQUESTS.—Under the will of the late Mr. Thomas Webb of Cardiff, University College, London, will receive £5000 to be used and applied, so far as is practicable, for the purposes of physical research; University College of South Wales and Monmouthshire £5000 for a similar purpose; and £500 are bequeathed to the Cardiff General Infirmary and £500 to the General Hospital, Tunbridge Wells.—By his will Mr. Caleb Ashworth Tate of West Dulwich has bequeathed £5000 each to the National Hospital for the Paralysed and Epileptic and the National Society for the Employment of the Epileptic.—The late Mr. R. H. Wood of Sidmouth has bequeathed £1000 to the funds of the West of England Eye Infirmary, Exeter.

The circumstances, indeed, which have occasioned the appointment of the Departmental Committee are in themselves ample proof of this, for, as the terms of reference plainly intimate when they allude to the inquiry as "involving questions of urgency," it is clear that the immediate *raison d'être* of the Committee is the necessity of finding a way out of the anomalous situation created by the recent action of the London County Council which, as we have pointed out,[1] has practically suspended the operation of the Inebriates Act of 1898 in the metropolitan area. Of the importance of dealing promptly with this situation there can, of course, be no question, but it is earnestly to be hoped that the recommendations of the Committee on this point will not be limited to suggesting a basis of compromise with the Council on the financial matters in dispute but that they will be of a more radical character and will deal with the real issue in the controversy between the Council and the Government—namely, the question whether the responsibility for the control and maintenance of institutions for criminal inebriates should devolve on the State or on local authorities. Up to the passing of the Inebriates Act of 1898 the class of drunkards for whose treatment that measure was specially designed—that is to say, the ordinary police court recidivists—had been dealt with in prisons under the management and at the expense of the State. The Act in question permitted the adoption of an alternative and *ex hypothesi* a better system for the control of such persons, but at the same time delegated the responsibility for working this system to local authorities and to private individuals and placed on the rates a large part of the cost of maintaining the reformatories founded under the Act. It is difficult to gather either from the debates on the measure in Parliament or from subsequent discussions of the question the precise grounds on which this policy was adopted. The principle of local control had been tried and found wanting in prison administration and the weighty reasons which compelled the State in 1870 to take over the management of the local gaols from the county authorities would seem to apply with at least equal force to the case of reformatories for criminal drunkards. It is evident, for instance, that it is no less important in these reformatories than it is in prisons that the conditions under which sentences of compulsory detention are carried out should be, if not uniform, at all events so far similar as to obviate the risk of local exaggerations of either the humanitarian or the deterrent idea; and such similarity of conditions can hardly be secured without centralised administration. The same mode of administration commends itself also on grounds of economy, understanding, of course, by that term the true economy of which efficiency is an essential part. In the case of reformatories for inebriates such efficiency demands, above all, adequate means for the separation of the different classes of inmates; and this must obviously be a far more expensive matter under the system by which each county maintains its own reformatory where all classes of inebriates are treated, than it would be under a system which would allow all the inebriates of the country to be distributed over a number of institutions, each arranged with a view to meeting the requirements of the particular category of inebriates to be detained in it. On a limited scale these two systems are in actual operation at present and it would appear from the reports of the inspector under the Inebriates Act that the superiority of the system of centralised administration has been conclusively shown in practice. Dr. R. W. BRANTHWAITE tells us that in the reformatories which are known collectively as "The National Institutions for Inebriates" and which are under the control of a single governing body, the initial cost of construction and the *per capita* expense for maintenance are considerably lower, while the profit from the labour of the inmates is considerably higher, than in any of the reformatories founded by the county authorities. Unless, therefore, the Departmental Committee succeeds in discovering some facts not hitherto available in the discussion of this question it seems clear that the balance of evidence leans to the view that the control of inebriate reformatories is a duty which is incumbent on the State, for, of course, in institutions which will inevitably have to some extent a penal character any system of centralised administration must of necessity be under the direct control of the State. It is inconceivable that public opinion would sanction, except as a merely temporary expedient, any arrangement whereby associations of private individuals however estimable would be entrusted with the large disciplinary powers exercised under the Inebriates Act.

The zeal for clear and logical principles, none the less effective for being possibly unconscious, which has impelled the London County Council to raise in an acute form the question of administrative control which we have just discussed, will no doubt give this matter the first place on the programme of the Departmental Committee. There is perhaps on this account a certain risk that other and even more important defects in the present law relating to inebriates may not receive all the attention which they demand. The most serious of the defects to which we refer concern the definition of the habitual drunkard established by the Act of 1898. The framers of that measure appear to have overlooked the homely counsel that as the first step towards cooking your hare it is well to catch it. Their method was rather to set up an elaborate, though as we have seen a not very efficient, apparatus for catching and cooking, and then to assume that whatever found its way into their cooking pot was to be regarded as hare, and indeed as the only authentic sort of hare. Thus according to the provisions of the Act an inebriate was defined in practice as a person who, being regarded in the expert opinion of a policeman as a drunkard, was either convicted summarily three times in a twelvemonth of drunkenness or was convicted on indictment of certain offences in the perpetration of which drunkenness was supposed to be a contributory cause. By this test, therefore, an industrious and intelligent artisan with an excessive taste for conviviality on Bank Holidays might readily be committed to a reformatory for three years to be cured of inebriety, while a steady soaker who lived and worked on alcohol, but never got obtrusively drunk, might go on till he died from cirrhosis of the liver or till he killed his family and himself in an outbreak but that the duration of both the positive and the negative phase is shorter. In regard to dosage the same quantity has been employed in these observations as is recommended for hypodermic use but Dr. LATHAM suggests that it is probable that it might be slightly increased with advantage. In regard to pneumococcic infections only three cases are described and in these the administration of a dose of a stock pneumococcal vaccine in horse serum appeared to exert a favourable influence, but the observations are too few to draw any useful conclusions from; moreover, one of the cases was in a child, aged two years, with an apical pneumonia, and in such cases the pyrexial period is often short apart from any specific treatment.

---

[1] THE LANCET, March 28th, 1908, p. 949.

Dr. LATHAM next endeavours to establish whether any relationship exists between the variations of the opsonic index and those of the symptoms and temperature curve with a view to formulating rules for treatment by vaccines without the necessity for frequent opsonic determinations. He states, as a result of the observations made by himself on the clinical side controlled by those of his collaborators on the opsonic index, that the more carefully the symptoms of a patient and the curve of his temperature are studied the more accurately it can be inferred whether the opsonic index is fluctuating or is in a positive or negative phase. He summarises the relations which he claims to have established in the following general statements. In febrile cases the opsonic index fluctuates with the temperature but in an inverse direction, so that when the temperature falls the opsonic index rises, while it falls when the temperature rises. When the temperature is persistently high the opsonic index is persistently low, and when the temperature, although remaining at about the same high level, fluctuates to a less degree there is an improvement in the opsonic index. In afebrile cases there is also an inverse relation between the temperature and the opsonic index. When the temperature has been fluctuating from 97° to 98·4° F. and then remains level at 98° the opsonic index rises. When the temperature, previously level and normal or subnormal, rises to 99° the opsonic index falls. In regard to the relation to clinical symptoms it is claimed that the index is low when the patient complains of subjective symptoms, headache, restlessness, and want of appetite; it is raised when the patient feels better and his symptoms show improvement. Dr. LATHAM is confessedly somewhat vague in his statements as to the value of the horse serum which he administered together with the tuberculin in some of his cases. Control cases with vaccines given in normal saline solution have shown good results and he does not recommend the repeated use of horse serum for more than a fortnight. He is careful to describe his paper as a preliminary communication and as such it is well worthy of careful consideration. The comparatively short space of time during which most of the cases were under observation permits of little inference being drawn as to the actual curative value of the administration of tuberculin by the mouth, while in regard to the other conditions so few cases were observed that the observations can only be regarded as suggestive. The chief facts established by these researches in regard to the treatment of tuberculous affections are that tuberculin can be absorbed from the alimentary canal and that it can be utilised in this manner for purposes of treatment, but whether this method possesses any advantages over hypodermic administration other than convenience to compensate for the greater difficulty in graduating the dose remains to be proved. With reference to vaccine treatment without opsonic determinations this has been consistently employed for years by TRUDEAU, who from his clinical studies gave smaller doses than were generally employed and obtained good results. The confirmation afforded by the work of Dr. LATHAM and his co-workers of the possibility of graduating and spacing the doses from the clinical standpoint is a useful piece of work, and the conclusions given in this paper are worthy of careful consideration and should lead to an increased use of vaccines if they are confirmed after a more extended trial. At the same time it should be remembered that these agents are not to be used without great care and discrimination, since they are potent for evil as well as for good, and that if opsonic determinations are not made the study of the temperature and the clinical conditions should be very carefully carried out.

◆

The Law Relating to Inebriates.

THE Departmental Committee recently appointed by the Home Secretary to inquire into the working of the law relating to inebriates will have the advantage of entering on its labours at a moment when the question of the duties and responsibilities of the State in connexion with the social problem of intemperance is engaging in a special manner the attention of the public. In referring to this circumstance as an advantage we use the word advisedly, for though it may be open to doubt whether the turmoil of party politics contributes very largely to the advancement of truth (whether, for instance—to give the general principle its particular application—the acrimonious debates on the Licensing Bill, which at present bulk so largely in the columns of the daily press, are likely to determine with scientific exactitude the relation between a plethora of public-houses and an excessive consumption of liquor), nevertheless, it is highly probable that the interest awakened by controversy regarding the more polemical aspects of a question may exercise a favourable influence on the discussion of other aspects of the same problem which do not make so strong an appeal to partisan feeling. In relation to the controversial issues of the liquor problem the question of the proper treatment of habitual drunkards is in the fortunate position of lying outside the sphere of party politics and should have no tendency to inflame the prejudices either of the teetotaler or of the zealous advocate of the rights of "the trade." And it may therefore be reasonably hoped that the heat engendered by the clash of opinion on the points where the views of these two classes are strictly at variance may be available as driving energy for reform in this particular direction where they are in agreement.

While a virtual consensus of opinion may safely be taken for granted as regards the fundamental principle that habitual drunkards require in their own interest and in that of their fellows to be subjected to special control, the translating of this principle into effective legislation raises questions of detail which present difficulty in their solution.

one is ready for occupation, and that at the same time funds must be found to pay off a debt which has increased by £7700 owing to the working expenses of the last two years. And upon such a striking text Mr. Whitelaw Reid delivered an admirable little sermon concerning the oft-heard proposal to municipalise the insufficiently endowed hospitals, the gist of which may be summed up in a few of its own words. He believed that the task ahead of King's College Hospital would be accomplished, but the question of how it was to be done was of almost supreme importance, and it made him ask his audience, "Should it be done spontaneously and sympathetically as they and their fathers had done it in the past, or should the relief of the helpless sick and suffering be regarded henceforth as a mere burden on property, like drainage or paving?" Mr. Reid went on to proclaim his faith in the voluntary upkeep of hospitals as opposed to their municipal support under a scheme of assessment, largely because help tendered personally and spontaneously to the indigent sick on the ground of a common humanity was a far more ennobling influence in the community than the necessarily cold officialdom of civic control which must of necessity follow civic support. Few unprejudiced persons who have seen the relative human sympathy which qualifies the relief afforded by hospital and workhouse respectively will feel any hesitation in subscribing to that opinion. But if some should object that the weight of the argument lies in sentiment alone, and must give way before the harder necessity of business considerations, we would answer that even if by a widely-levied rate all our general hospitals could be placed to-morrow on a sound financial footing, yet their independence from future anxiety in that respect would be only gained by the sacrifice of an independence far more valuable to the interests of the poor whom they exist to serve. The present method of hospital government by boards consisting of private and charitable individuals has the broad result of securing that appointments to the medical staffs shall be made on professional and personal merit. It is on the skill and conduct of the medical staff that a hospital's good name ultimately rests. Here and there perhaps an appointment may be made which has some suspicion of nepotism, but in the vast majority of cases the reputations of our hospitals are in the keeping of men well worthy of their high responsibility, because they gain office through merit and not by fear or favour. If municipal boards are to replace the present disinterested councils in the control of the general hospitals past experience of "local administration" in certain other matters compels us to think that the purity of the principles at present governing election to hospital staff appointments must suffer degradation, with a consequent irretrievable loss to the interests of the suffering poor and of the progress of scientific medicine. The problem is an urgent one and affects every one of our great hospitals. Next week another hospital, St. Mary's, is making a supreme effort to obtain a fund of money large enough to equip and to open a much-needed wing, and we believe the appeal will not be made in vain. Private philanthropy is the foundation-stone of the English hospital system, which we trust will ever remain on that foundation. If our hospital system be placed on a bottom of compulsory support by the ratepayers its whole fabric can hardly escape deterioration in the process.

MEDICINE IN THE ATHARVA-VEDA.

IN the late Professor Whitney's translation of the Atharva-Veda, which under the distinguished editorship of Professor Lanman has in recent years been issued by the authorities of Harvard, there are many passages of interest to the student of primitive medical history. The Atharva-Veda was the latest of the Vedic collections to be recognised as part of the sacred canon. It is, in fact, the youngest of the Vedas and as such it differs considerably from the older literature of the Rik period. "The hymns of the Rik reflect chiefly the religious notions of the more intelligent and educated minority." The Atharva-Veda, on the other hand, reflects the notions of a conquered majority. It is full of spells and incantations, and medicine in it appears as a system of magic while illnesses are the work of evil spirits. The use of amulets is everywhere referred to and prescriptions take the form of poetical prayers against various ailments. "Release thou him from headache and from cough—whoever hath entered each joint of him; the blast that is cloud-born and wind-born, let it attach itself to forest-trees and mountains." So runs a mystic prayer to ward off the sicknesses resulting from lightning. Many of the prayers are malevolent and are directed against the virility or fecundity of hated rivals. But now and then we meet with a strain of lofty poetry, as in the hymn in Book X. of the Atharva-Veda on "The wonderful structure of man," which suggests the "Book of Job":—

> How many gods, and which were they, who gathered the breast, the neck-bones of man? How many gathered the shoulder-bones, how many the ribs?
>
> Who brought together his two arms, saying "he must perform heroism"? What god then set on his two shoulders upon his body?
>
> Who bored out the seven apertures in his head—these ears, the nostrils, the eyes, the mouth, in the might of whose conquest in many places quadrupeds and bipeds go their way.
>
> Numerous things dear and not dear, sleep, oppressions and wearinesses, delights and pleasures—from where does formidable man bring them?

The next question would almost suggest a knowledge of the circulation of the blood:—

> Who disposed in him waters, moving apart, much moving, produced for river-running, strong, ruddy, red, dark, and turbid, upward, downward, crosswise in man?
>
> Who put about him clothing? Who prepared his lifetime? Who extended to him strength?

The list of these questions in the hymn is a long one: together they prove that the earliest Aryans could reverence the human body in a spirit entirely noble and free from superstition.

THE NATIONAL ASSOCIATION FOR THE FEEBLE-MINDED.

Lady Frederick Brudenell-Bruce presided at the annual meeting of the National Association for the Feeble-minded which was held in Lord Brassey's Indian Room on May 8th. In her introductory address she appealed for more money and more workers, some £8000 being required to equip thoroughly a farm colony of about 100 acres in extent which is to afford an agricultural farm for boys, a flower farm for girls, and a school for the children. She announced that H.R.H. Princess Christian of Schleswig-Holstein has graciously given her name to the fund which is to be raised with this object. Lady Brudenell-Bruce dwelt upon the national character of the association's work and the necessity for the segregation of weak-minded persons in the interests of the race. Last year 652 cases had been inquired into in detail and assisted, which represented an enormous amount of individual work. Mr. Anthony Hope Hawkins fully endorsed the appeal from the chair and dwelt upon the necessity of personal interest to supplement public assistance in the treatment of these cases which he well described as "unfortunates, subnormal in intellect and will." Sir T. Clifford Allbutt presented the national issue very plainly to his audience, showing that the time had come for the question of propagation by degenerates to be faced resolutely, however difficult the problem seemed. Imbecile women especially must be protected against their own weakness and the machinations of others, as was proved by the large illegitimate families which are not uncommonly produced by such unfortunates; he maintained that the only way in which they could be protected without intolerable interference with parental control was by the coöperation of the parents, the State, and such associations as that for which he was pleading. The establishment of a Ministry of of delirium tremens, and yet at no stage of his career find himself under control as a dangerous inebriate. The natural result of this system, as may be seen in the annual reports of the Inspector of Inebriate Reformatories, has been that of the small number of persons committed to such institutions since the Act came into force—considerably under 3000 in all—a large majority were persons of congenitally weak mind, in whom, as is well known, inebriety, or what passes as such, is merely one, and except perhaps to a policeman by no means a specially important, manifestation of a general defect of development in intellect and will. The cases which belong to the vastly larger and more important category of the alcoholic, those in which the diseased condition is the consequence and not the cause of alcoholic excess, and may be removed by the arrest of such excess, have been practically excluded from the operation of the Act. This result is not only regrettable as tending to discredit the principle of reformatory detention but it also helps to create a false conception of inebriety which is likely to prove a serious obstacle to the extension of this method of treatment to curable cases. Even in official publications it is possible to detect some traces of this influence and to discover a certain disposition to assume that the characteristics common to the group of half-witted prostitutes who form the bulk of the inmates of the inebriate reformatories are the hallmark of an inebriate diathesis which is an indispensable condition to the development of alcoholic habits. This is a fallacy which the inquiries of the Departmental Committee should have little difficulty in exploding, and it may be questioned whether at the present moment it could render any greater service to the cause of the rational treatment of alcoholism than by clarifying ideas on this fundamental matter and by establishing a definition of inebriety based on the observations of the physician rather than on the intuitions of the policeman.

◆

The Declining Birth-rate in the United Kingdom.

THE variations in the rate of decline in the recorded birth-rates in the three divisions of the United Kingdom, and more especially the very slight, if any, decline that has occurred in Ireland, have scarcely received the notice which they deserve. The last issued annual report of the Registrar-General for England, relating to the year 1906, contains some useful summary tables showing the marriage-, birth-, and death-rates in the several parts of the United Kingdom and in the principal British colonies during the 25 years 1881–1905. These tables afford the means for calculating and comparing the proportional decline in the birth-rates during this period in England and Wales, Scotland, and Ireland. In the whole of the United Kingdom the annual birth-rate, which averaged 32·1 per 1000 of the population during the five years 1881–85, had fallen to 27·7 in the five years 1901–05, showing a decline of 13·9 per cent. in the 20 years. In England and Wales the decrease during the same period was from 33·5 to 28·1 per 1000, the decline being equal to 16·2 per cent.; while in Scotland the birth-rate declined in the same period from 33·3 to 28·9 per 1000, equal to a decrease of 13·0 per cent. In Ireland, however, where from causes which call for further notice the birth-rate is constantly much lower than in England and Wales or in Scotland, the rate per 1000, which was equal to 23·9 in 1881–85, only declined to 23·2 in 1901–05; the decrease did not therefore exceed 3·0 per cent. It should be borne in mind that the birth-rates noted above are all what are now correctly described as crude birth-rates, no account being taken in their calculation of the changed age-constitution of the populations resulting from the recent continuous decline in the birth-rates. Tables given in the Registrar-General's report show that the decline in the birth-rate in England and Wales, corrected for this change of age-constitution, by its calculation on the estimated female population aged 15–45 years, living at the different periods, has really been considerably greater than that derived from a comparison of the crude uncorrected birth-rates. This is probably also the case as regards Scotland, where the rate of decline shown by the crude rates differs but slightly from that in England and Wales. As regards Ireland, however, it should be remembered that the estimated total population actually declined by considerably more than half a million during the period 1883–1903 and that the emigrants mainly consisted of men in their prime and women of child-bearing ages. It is, therefore, more than probable that if the birth-rate in Ireland were corrected for the obvious changes in the age-constitution of the population resulting from this emigration, the slight decline shown by the crude birth-rates would more than disappear. The practical absence of decline in the Irish birth-rate is also noticeable if we compare the recorded birth-rates in London and Dublin in recent years. The birth-rate in London in 1867 was equal to 36·5 per 1000 and since that date has, with occasional slight exceptions, steadily declined and during last year fell so low as 25·7, the lowest London rate on record; the decrease in the London birth-rate during the 40 years has thus been equal to 29·6 per cent. The mean annual uncorrected birth-rate in London during the five years 1881–85 was 32·9 per 1000 but had declined 20 years later (1901–05) to 26·9, showing a decrease equal to 19·5 per cent. In Dublin, on the other hand, the annual crude birth-rate was equal to 26·9 per 1000 in the five years 1866–70 and had actually increased to 29·1 in the most recent five years 1903–07. The Dublin birth-rate has, moreover, been practically stationary during the period 1883–1907, the mean rate being 28·9 in the five years 1881–85, and 29·1 in the five years 1903–07. There appears, therefore, to be no trustworthy evidence of any real decline in the Irish birth-rate, and certainly of no decline similar to that shown by the recorded birth-rates in England and Wales and Scotland, a fact which seems to call for further explanation.

Annotations.

"Ne quid nimis."

THE SUPPORT OF HOSPITALS BY THE VOLUNTARY SYSTEM.

AT the annual festival dinner in aid of King's College Hospital the American Ambassador, who was in the chair, presented the supporters of the hospital with this problem: that £106,000 must be collected by the time the new building in South London is completed in addition to the £194,000 already obtained by voluntary subscription, that the current expenses of the present hospital must be met until the new etiological factor, while in others it plays a secondary part. After a careful consideration of his own results and a comparison with those of other observers, Dr. Freund is convinced that this organism is the direct cause of certain forms of acute, chronic, and recurring enteritis, characterised by abdominal pain, diarrhœa, loss of weight and strength, and anæmia. Dr. David Murray Cowie of Ann Arbor and Dr. James Frederick Munson of Sonyea, N.Y., give the results of an *Experimental Study of the Action of Oil on Gastric* Acidity and Motility. They find that olive oil and cottonseed oil, when given in connexion with the usual test breakfast, decrease the gastric acidity at the end of the hour and retard the evacuation of the stomach, that the secretion of hydrochloric acid is delayed when oil precedes the meal and is unchanged when oil follows it, and that the height of secretion is lowered when oil precedes the meal and is unchanged when given afterwards. They conclude that oil is in suitable cases preferable to antacids because of its heat value, and recommend that in hyperchlorhydria it should precede the meal, that in hypochlorhydria it should follow the meal, and that its use should be avoided in stasis and persistent slow evacuation. Dr. Hugh A. Stewart of Baltimore records his observations on the Pulse and Blood Pressure Changes in Aortic Insufficiency. He confirms *Henderson's* statement that the cardiac cycle is not diphasic but triphasic, consisting of systole, *the period of* ventricular discharge; diastole, the period of ventricular relaxation and filling; and diastasis, the period of rest. From experimental investigations he finds that aortic regurgitation increases the systolic output in the dog by only a fraction of a cubic centimetre of blood and that the volume of blood which regurgitates *is negligible. The fall* of blood pressure in aortic regurgitation is due to the diminished peripheral resistance brought about by a reflex inhibition of the vasomotor centre and not *to loss* of blood by regurgitation. We wish the American Medical Association every success in this endeavour to found a periodical dealing with the scientific aspects of medicine.

PREMATURE BURIAL.

In a contemporary journal on April 23th there appeared under the following headlines, "Living Woman in a Coffin—Narrow Escape from being Buried Alive," a detailed account of an alleged circumstance calculated to strike terror into the minds of people, and especially those who are unusually receptive of the marvellous. In a later issue it was stated that there was no foundation for the report. Although premature burial cannot be denied absolutely we may say with Brouardel, "if a mistake has been made it is a popular blunder and not a medical *one*." There are many circumstances which cause death to be simulated but the phenomenon can never, at least in this country, give rise to a mistaken belief when properly examined by a qualified medical man. Apparent death, or, as it has been termed, "latent life," is occasionally observed under a variety of conditions. In hysteria, catalepsy or trance, and syncope from mental or physical shock the signs of life may be reduced to a minimum. The same occurs in many cases of so-called stillbirth and in supposed deaths from drowning. Prolonged attempts at resuscitation of bodies apparently lifeless at once exemplify the condition and indicate the knowledge that life may be distinguished from the simulacrum of death. Short of cadaveric decomposition there is no certain sign of death, much less an absolute criterion which can determine the precise moment of death. In some cases of somatic death—e.g., after decapitation—the heart, once termed "ultimum moriens," has been known to beat for many minutes. It is not our purpose to discuss here the various signs of death and their relative value but to assail what has become in some degree a popular belief that bodies may be buried alive because of the supposed inability to prove that they are dead. We say without hesitation that cases of simulated death are few, and that those in which the likeness cannot be effaced do not exist. Of the recorded instances of premature burial the vast majority are wholly devoid of foundation in fact, and the doubtful remainder are wanting in substantiation by the only evidence worthy of credence—that of a qualified medical man. In some parts of Germany what are termed funeral chambers are provided for the purpose of watching bodies in order to verify the fact of death. In some of these a bell rope is placed in the hands of the corpse, but as a distinguished authority has pithily remarked, "since the institution of these chambers no one has ever heard the bell ring." We may fittingly close these remarks with the words of Brouardel, "Let us say at once that one fact is found to be almost constantly present—viz., in the immense majority of cases the persons died without having been *seen during their* illness by a physician, and were buried without a physician having had the opportunity of verifying their death."

THE MEDICAL SOCIETY OF LONDON.

At a general meeting of the Medical *Society of London*, held at 11, Chandos-street, Cavendish-square, London, on May 11th, Mr. C. B. Lockwood was elected President and the following were elected members of the Council: Mr. Charles A. Ballance, Dr. Walter Broadbent, Mr. Edred M. Corner, Dr. Bertrand Dawson, Dr. John H. Drysdale, Mr. Harold A. T. Fairbank, Colonel Sir Joseph Fayrer, Bart., R.A.M.C., Dr. James Kingston Fowler, Mr. A. Corrie Keep, Mr. V. Warren Low, Dr. Percy J. F. Lush, Dr. Frederick S. Palmer, Dr. J. Porter Parkinson, Dr. J. J. Perkins, Dr. Frederick J. Poynton, Mr. Herbert Tilley, Dr. R. Cecil Wall, Mr. Charles Gordon Watson, Dr. F. Parkes Weber, and Dr. W. Essex Wynter.

THE QUESTIONABLE EFFICIENCY OF ATROPINE IN CHLOROFORM POISONING.

In the *Biochemical Journal* of April 16th Dr. W. Webster contributes notes on the action of atropine, hyoscyamine, hyoscine, scopolamine, duboisine, and daturine, representing the results of a research which was begun with the primary object of testing the efficiency of atropine as a restorative in poisoning by chloroform, or as a precautionary measure before its administration. Dr. Webster found as close a relationship between these substances as regards their physiological action as there is between their chemical structure, no difference being detected between them from a physiological point of view. The experiments were performed on dogs and cats and the anæsthetics employed were chloroform, ether, or the A.C.E. mixture, and in a few cases curare in addition. The investigation was restricted to the gross effects upon the heart, circulation, and respiration, and brought out several points of interest. In dogs atropine, hyoscine, hyoscyamine, scopolamine, and daturine, whether in small *or large doses*, produced a lowering of the blood pressure. Dr. Webster considers that although these drugs eliminate the tonic inhibitory action of the vagus, they have a simultaneous action on the heart substance, diminishing the output. The frequent administration of increasing doses of these drugs produces a condition of tolerance within one or two hours, enabling the animal to withstand, with comparatively slight reaction, very many times the dose which would have been fatal at the beginning of the experiment. In small doses the respiration is quickened and rendered deeper, in large doses it is often paralysed immediately. In so f as they go these experiments do not tend to encourage use of atropine in chloroform poisoning. Suprarenin, other hand, seems to be of much more, though utility. Its effect is transitory, so that as a

Health was an essential to the proper preventive treatment of such grave problems as this which the association was facing. Mr. W. H. Dickinson, M.P., gave an interesting account of the successful working of large farm colonies in America which afford varied employment and interests to their feeble-minded inmates; he laid stress upon the personal qualities required by the officers owing to the fact that a feeble-minded person was practically a child, happy as long as he received proper care and affection. Dr. Robert Jones gave the meeting those national statistics of insanity and imbecility which unhappily our readers have only too often before them, and after dwelling upon their proved consequences made a spirited appeal for the study and practice of eugenics. He supported strongly both the aims and the methods of the association, which had evoked his warm admiration. Finally, Miss Adler spoke of the important after-care work of the association, which she considered should be taken up by local authorities. We were pleased to see that many ladies evidently belonging to the leisured and influential classes were present at this meeting. When such facts are widely known as were told to them in undisguised language concerning the propagation of the unfit the nation will begin to see that the wise and sympathetic control of uncertifiable "border-line" mental cases in such settlements as this association seeks to found is demanded in the urgent interests of the nation no less than in those of the afflicted individuals themselves. As the speakers at this meeting suggested, it is personal sympathy which can alone deal with them in the best possible manner. We heartily commend the work of this association in its educational, its charitable, and its national purposes, and we trust that the money may be forthcoming to found the proposed farm colony.

RECOVERY FROM DISLOCATION OF THE NECK.

IN rare cases recovery has taken place after dislocation of the neck. In the *New York Medical Journal* of April 18th Dr. Lucien Lofton has reported the following remarkable case. A youth, aged 20 years, while adjusting a chain beneath a steam shovel was caught round the neck by it and drawn up against the floor of the machine. The left side of his head was pressed against the under surface of the shovel for several seconds. When released he fell limp to the ground and appeared to be dead to those who removed his body. Within a few seconds he showed signs of recovery. When he regained consciousness he asked for water but after repeated attempts for an hour he could not swallow it. Dr. Lofton saw him about three hours after the accident, when he was much improved. He did not complain of pain but only that his neck was sore. On being offered drink he could with great difficulty use some of the muscles of deglutition. The pulse was 58 and the respiration was 14. There was complete sensory and motor paralysis below the chin, excepting a slight movement of the right index finger, and loss of control of the sphincters. He talked intelligently and could whistle, expectorate, protrude the tongue, and make any facial contortion requested. The neck was stretched one and a half inches. The ventral arch of the atlas rested upon the odontoid process of the axis. Reduction was performed in the following manner. The patient was placed flat upon the ground. Two assistants grasped his lower limbs and two placed their hands on his chest to steady the trunk. Dr. Lofton then firmly grasped the occiput with his right hand and placed his left under the chin. By lifting the head backwards, upwards, and forwards upon the chest he replaced the atlas in its normal position. He performed each step of the manipulation deliberately and slowly. No anæsthetic was used for fear of direful results. During the reduction the patient complained of much pain, especially in the throat, and said that he felt as if he were about to choke. No immediate sensory or motor improvement was observed upon reduction but there was a desire to micturate. The neck and head were fixed in their normal position with adhesive plaster. The patient was taken home in an ambulance. When he arrived, about 11 hours after the accident, the pulse was 76 and the respiration was 19. He was placed in bed with the head elevated about eight inches. The plaster on the neck was reinforced with bandages. The temperature never rose above 99·6° F. On the fourth day the paralysis began to diminish in the left leg and right forearm. On the seventh day he could move the right foot. Gradually the use of the muscles of deglutition, the erector spinæ, the muscular system generally, and the sphincters was regained. The dorsal decubitus position was maintained for ten days. Then massage, hot sponging, and faradism were used and the patient could change his position with assistance. On the fifteenth day he contracted measles which ran the usual course. On the thirtieth day he could sit up and walk a few steps. Massage and faradism were used for five and a half months. At the end of this time the only evidence of the injury was partial atrophy of the left deltoid muscle.

THE ARCHIVES OF INTERNAL MEDICINE.

WE have received a copy of the first number of the *Archives of Internal Medicine*—a new magazine produced and published by the American Medical Association. It is to appear in monthly parts and the subscription price is $4 per annum, including postage. It is under the direction of an editorial board consisting of Dr. R. C. Cabot of Boston; Dr. George Dock of Ann Arbor, Michigan; Dr. David L. Edsall of Philadelphia; Dr. Theo. C. Janeway of New York; Dr. W. S. Thayer of Baltimore; and Dr. Joseph L. Miller of Chicago. Judged by the first number the American Medical Association is to be congratulated on its new venture. It contains five papers, the first being the Harvey Lecture delivered at the New York Academy of Medicine by Dr. Friedrich Müller of Munich on the Nervous Affections of the Heart, which is an interesting presentment of this complex subject viewed from the clinical standpoint in the light of the recent advances afforded by the experimental study by scientific physiological methods of the heart's action and its control by the central nervous system. Dr. Richard Weil of New York City contributes a short paper on the Hæmolytic Reactions of the Blood in Dogs affected with Transplantable Sarcoma. Having found in a previous investigation that hæmolytic substances could be extracted from these tumours in dogs, he now maintains as a result of his experiments that the serum of all the dogs with these tumours is distinctly more hæmolytic than that from normal dogs, and further that the corpuscles of the animals with tumours are more refractory to the destructive effects of the hæmolytic serum than those of normal dogs. He draws attention to the bearing which these results may prove to possess in regard to the anæmia associated with new growths. Dr. Hugo A. Freund of Detroit contributes an important paper with the title "Trichomonas Hominis Intestinalis: a Study of its Biology and Pathogenicity." He points out that American and English writers have not attached sufficient importance to this organism. He describes its morphology in considerable detail and gives some good plates in illustration. So far it has been found impossible to cultivate this organism. Dr. Freund has had the opportunity of showing the clinical course and symptoms of ten cases in which these organisms were found in the fæces, and of these cases he gives details. The trichomonad is found in a variety of pathological conditions, in some of which it would appear to be an etiological factor, while in others it plays a secondary part. After a careful consideration of his own results and a comparison with those of other observers, Dr. Freund is convinced that this organism is the direct cause of certain forms of acute, chronic, and recurring enteritis, characterised by abdominal pain, diarrhœa, loss of weight and strength, and anæmia. Dr. David Murray Cowie of Ann Arbor and Dr. James Frederick Munson of Sonyea, N.Y., give the results of an Experimental Study of the Action of Oil on Gastric Acidity and Motility. They find that olive oil and cottonseed oil, when given in connexion with the usual test breakfast, decrease the gastric acidity at the end of the hour and retard the evacuation of the stomach, that the secretion of hydrochloric acid is delayed when oil precedes the meal and is unchanged when oil follows it, and that the height of secretion is lowered when oil precedes the meal and is unchanged when given afterwards. They conclude that oil is in suitable cases preferable to antacids because of its heat value, and recommend that in hyperchlorhydria it should precede the meal, that in hypochlorhydria it should follow the meal, and that its use should be avoided in stasis and persistent slow evacuation. Dr. Hugh A. Stewart of Baltimore records his observations on the Pulse and Blood Pressure Changes in Aortic Insufficiency. He confirms Henderson's statement that the cardiac cycle is not diphasic but triphasic, consisting of systole, the period of ventricular discharge; diastole, the period of ventricular relaxation and filling; and diastasis, the period of rest. From experimental investigations he finds that aortic regurgitation increases the systolic output in the dog by only a fraction of a cubic centimetre of blood and that the volume of blood which regurgitates is negligible. The fall of blood pressure in aortic regurgitation is due to the diminished peripheral resistance brought about by a reflex inhibition of the vasomotor centre and not to loss of blood by regurgitation. We wish the American Medical Association every success in this endeavour to found a periodical dealing with the scientific aspects of medicine.

PREMATURE BURIAL.

IN a contemporary journal on April 28th there appeared under the following headlines, "Living Woman in a Coffin—Narrow Escape from being Buried Alive," a detailed account of an alleged circumstance calculated to strike terror into the minds of people, and especially those who are unusually receptive of the marvellous. In a later issue it was stated that there was no foundation for the report. Although premature burial cannot be denied absolutely we may say with Brouardel, "if a mistake has been made it is a popular blunder and not a medical one." There are many circumstances which cause death to be simulated but the phenomenon can never, at least in this country, give rise to a mistaken belief when properly examined by a qualified medical man. Apparent death, or, as it has been termed, "latent life," is occasionally observed under a variety of conditions. In hysteria, catalepsy or trance, and syncope from mental or physical shock the signs of life may be reduced to a minimum. The same occurs in many cases of so-called stillbirth and in supposed deaths from drowning. Prolonged attempts at resuscitation of bodies apparently lifeless at once exemplify the condition and indicate the knowledge that life may be distinguished from the simulacrum of death. Short of cadaveric decomposition there is no certain sign of death, much less an absolute criterion which can determine the precise moment of death. In some cases of somatic death—e.g., after decapitation—the heart, once termed "ultimum moriens," has been known to beat for many minutes. It is not our purpose to discuss here the various signs of death and their relative value but to assail what has become in some degree a popular belief that bodies may be buried alive because of the supposed inability to prove that they are dead. We say without hesitation that cases of simulated death are few, and that those in which the likeness cannot be effaced do not exist. Of the recorded instances of premature burial the vast majority are wholly devoid of foundation in fact, and the doubtful remainder are wanting in substantiation by the only evidence worthy of credence—that of a qualified medical man. In some parts of Germany what are termed funeral chambers are provided for the purpose of watching bodies in order to verify the fact of death. In some of these a bell rope is placed in the hands of the corpse, but as a distinguished authority has pithily remarked, "since the institution of these chambers no one has ever heard the bell ring." We may fittingly close these remarks with the words of Brouardel, "Let us say at once that one fact is found to be almost constantly present—viz., in the immense majority of cases the persons died without having been seen during their illness by a physician, and were buried without a physician having had the opportunity of verifying their death."

THE MEDICAL SOCIETY OF LONDON.

AT a general meeting of the Medical Society of London, held at 11, Chandos-street, Cavendish-square, London, on May 11th, Mr. C. B. Lockwood was elected President and the following were elected members of the Council: Mr. Charles A. Ballance, Dr. Walter Broadbent, Mr. Edred M. Corner, Dr. Bertrand Dawson, Dr. John H. Drysdale, Mr. Harold A. T. Fairbank, Colonel Sir Joseph Fayrer, Bart., R.A.M.C., Dr. James Kingston Fowler, Mr. A. Corrie Keep, Mr. V. Warren Low, Dr. Percy J. F. Lush, Dr. Frederick S. Palmer, Dr. J. Porter Parkinson, Dr. J. J. Perkins, Dr. Frederick J. Poynton, Mr. Herbert Tilley, Dr. R. Cecil Wall, Mr. Charles Gordon Watson, Dr. F. Parkes Weber, and Dr. W. Essex Wynter.

THE QUESTIONABLE EFFICIENCY OF ATROPINE IN CHLOROFORM POISONING.

IN the *Biochemical Journal* of April 16th Dr. W. Webster contributes notes on the action of atropine, hyoscyamine, hyoscine, scopolamine, duboisine, and daturine, representing the results of a research which was begun with the primary object of testing the efficiency of atropine as a restorative in poisoning by chloroform, or as a precautionary measure before its administration. Dr. Webster found as close a relationship between these substances as regards their physiological action as there is between their chemical structure, no difference being detected between them from a physiological point of view. The experiments were performed on dogs and cats and the anæsthetics employed were chloroform, ether, or the A.C.E. mixture, and in a few cases curare in addition. The investigation was restricted to the gross effects upon the heart, circulation, and respiration, and brought out several points of interest. In dogs atropine, hyoscine, hyoscyamine, scopolamine, and daturine, whether in small or large doses, produced a lowering of the blood pressure. Dr. Webster considers that although these drugs eliminate the tonic inhibitory action of the vagus, they have a simultaneous action on the heart substance, diminishing the output. The frequent administration of increasing doses of these drugs produces a condition of tolerance within one or two hours, enabling the animal to withstand, with comparatively slight reaction, very many times the dose which would have been fatal at the beginning of the experiment. In small doses the respiration is quickened and rendered deeper in large doses it is often paralysed immediately. In so as they go these experiments do not tend to encourag use of atropine in chloroform poisoning. Suprarenin, other hand, seems to be of much more, though utility. Its effect is transitory, so that as a

Health was an essential to the proper preventive treatment of such grave problems as this which the association was facing. Mr. W. H. Dickinson, M.P., gave an interesting account of the successful working of large farm colonies in America which afford varied employment and interests to their feeble-minded inmates; he laid stress upon the personal qualities required by the officers owing to the fact that a feeble-minded person was practically a child, happy as long as he received proper care and affection. Dr. Robert Jones gave the meeting those national statistics of insanity and imbecility which unhappily our readers have only too often before them, and after dwelling upon their proved consequences made a spirited appeal for the study and practice of eugenics. He supported strongly both the aims and the methods of the association, which had evoked his warm admiration. Finally, Miss Adler spoke of the important after-care work of the association, which she considered should be taken up by local authorities. We were pleased to see that many ladies evidently belonging to the leisured and influential classes were present at this meeting. When such facts are widely known as were told to them in undisguised language concerning the propagation of the unfit the nation will begin to see that the wise and sympathetic control of uncertifiable "border-line" mental cases in such settlements as this association seeks to found is demanded in the urgent interests of the nation no less than in those of the afflicted individuals themselves. As the speakers at this meeting suggested, it is personal sympathy which can alone deal with them in the best possible manner. We heartily commend the work of this association in its educational, its charitable, and its national purposes, and we trust that the money may be forthcoming to found the proposed farm colony.

RECOVERY FROM DISLOCATION OF THE NECK.

IN rare cases recovery has taken place after dislocation of the neck. In the *New York Medical Journal* of April 18th Dr. Lucien Lofton has reported the following remarkable case. A youth, aged 20 years, while adjusting a chain beneath a steam shovel was caught round the neck by it and drawn up against the floor of the machine. The left side of his head was pressed against the under surface of the shovel for several seconds. When released he fell limp to the ground and appeared to be dead to those who removed his body. Within a few seconds he showed signs of recovery. When he regained consciousness he asked for water but after repeated attempts for an hour he could not swallow it. Dr. Lofton saw him about three hours after the accident, when he was much improved. He did not complain of pain but only that his neck was sore. On being offered drink he could with great difficulty use some of the muscles of deglutition. The pulse was 58 and the respiration was 14. There was complete sensory and motor paralysis below the chin, excepting a slight movement of the right index finger, and loss of control of the sphincters. He talked intelligently and could whistle, expectorate, protrude the tongue, and make any facial contortion requested. The neck was stretched one and a half inches. The ventral arch of the atlas rested upon the odontoid process of the axis. Reduction was performed in the following manner. The patient was placed flat upon the ground. Two assistants grasped his lower limbs and two placed their hands on his chest to steady the trunk. Dr. Lofton then firmly grasped the occiput with his right hand and placed his left under the chin. By lifting the head backwards, upwards, and forwards upon the chest he replaced the atlas in its normal position. He performed each step of the manipulation deliberately and slowly. No anæsthetic was used for fear of direful results. During the reduction the patient complained of much pain, especially in the throat, and said that he felt as if he were about to choke. No immediate sensory or motor improvement was observed upon reduction but there was a desire to micturate. The neck and head were fixed in their normal position with adhesive plaster. The patient was taken home in an ambulance. When he arrived, about 11 hours after the accident, the pulse was 76 and the respiration was 19. He was placed in bed with the head elevated about eight inches. The plaster on the neck was reinforced with bandages. The temperature never rose above 99·6°F. On the fourth day the paralysis began to diminish in the left leg and right forearm. On the seventh day he could move the right foot. Gradually the use of the muscles of deglutition, the erector spinæ, the muscular system generally, and the sphincters was regained. The dorsal decubitus position was maintained for ten days. Then massage, hot sponging, and faradism were used and the patient could change his position with assistance. On the fifteenth day he contracted measles which ran the usual course. On the thirtieth day he could sit up and walk a few steps. Massage and faradism were used for five and a half months. At the end of this time the only evidence of the injury was partial atrophy of the left deltoid muscle.

THE ARCHIVES OF INTERNAL MEDICINE.

WE have received a copy of the first number of the *Archives of Internal Medicine*—a new magazine produced and published by the American Medical Association. It is to appear in monthly parts and the subscription price is $4 per annum, including postage. It is under the direction of an editorial board consisting of Dr. R. C. Cabot of Boston; Dr. George Dock of Ann Arbor, Michigan; Dr. David L. Edsall of Philadelphia; Dr. Theo. C. Janeway of New York; Dr. W. S. Thayer of Baltimore; and Dr. Joseph L. Miller of Chicago. Judged by the first number the American Medical Association is to be congratulated on its new venture. It contains five papers, the first being the Harvey Lecture delivered at the New York Academy of Medicine by Dr. Friedrich Müller of Munich on the Nervous Affections of the Heart, which is an interesting presentment of this complex subject viewed from the clinical standpoint in the light of the recent advances afforded by the experimental study by scientific physiological methods of the heart's action and its control by the central nervous system. Dr. Richard Weil of New York City contributes a short paper on the Hæmolytic Reactions of the Blood in Dogs affected with Transplantable Sarcoma. Having found in a previous investigation that hæmolytic substances could be extracted from these tumours in dogs, he now maintains as a result of his experiments that the serum of all the dogs with these tumours is distinctly more hæmolytic than that from normal dogs, and further that the corpuscles of the animals with tumours are more refractory to the destructive effects of the hæmolytic serum than those of normal dogs. He draws attention to the bearing which these results may prove to possess in regard to the anæmia associated with new growths. Dr. Hugo A. Freund of Detroit contributes an important paper with the title "Trichomonas Hominis Intestinalis: a Study of its Biology and Pathogenicity." He points out that American and English writers have not attached sufficient importance to this organism. He describes its morphology in considerable detail and gives some good plates in illustration. So far it has been found impossible to cultivate this organism. Dr. Freund has had the opportunity of showing the clinical course and symptoms of ten cases in which these organisms were found in the fæces, and of these cases he gives details. The trichomonad is found in a variety of pathological conditions, in some of which it would appear to be an

NOTES UPON HEALTH RESORTS.

SCANDINAVIAN WINTER HEALTH STATIONS.

(BY A SPECIAL COMMISSIONER.)

III.[1]

HEALTH CENTRES IN NORWAY.

NORWAY has a great future before it. It is a land possessed of immense possibilities. Its coast line is of great extent. Its waterfalls are a readily secured means of power. Its rivers, its lakes, its fjords, and its easy access to the sea afford unrivalled facilities for transit. Its people are well-educated, industrious, ambitious, patriotic, yet simple, hospitable, and courteous. Its laws, its schools, and its public institutions afford models for other less progressive countries. Its King and Queen are in close touch with, and manifest a real sympathy in, the aspirations of the people and are justly respected and rightly popular. But with all these endowments of nature and advantages of character and government, Norway is a comparatively poor and sparsely populated land. Its present population is less than two and a quarter millions. It is necessary to bear all these points in mind when considering, at least from the English standpoint, the possibilities and advantages of Norway as a land for the health seeker and the sportsman. The very simplicity which comes from a lack of elaboration and artificiality has its advantages. Among these must be mentioned as of special importance the very reasonable and, one might almost say, cheap rates prevailing in some of the best establishments well adapted to the needs of English visitors and also at sanatoriums for consumptives to which English patients might well be sent. The high prices existing in many British and foreign sanatoriums and health resorts are prohibitive for many middle-class patients who might be able to meet the very moderate charges of certain of the Norwegian establishments.

In many parts of Norway those responsible for the management of excellent health stations have hardly realised their possibilities for development. Their outlook needs to be less restricted. Steps must be taken to make Norwegian resorts known to English physicians if they would have English patients. In only too many instances prospectuses are printed only in Norwegian and German. This is a very short-sighted policy, hardly to have been expected of the Norwegian who is taught English in all his schools. Once in Norway the language difficulty hardly exists, for in almost every establishment English is spoken. Nearly all the many medical men with whom your Commissioner consulted spoke more or less excellent English. If Norway desires England and the rest of Europe to recognise her land as a centre to which health seekers may resort, she will have to follow the example of Switzerland, Italy, France, and Austria, and other countries and advertise.

The main lines of railway in Norway now belong to the State. A wise progressive policy on the part of those who govern the means of transit, which at present although comfortable are nevertheless infrequent and slow, will do much to attract visitors and to encourage travelling.

As matters are at present, English visitors during the winter will probably in most cases prefer to be at a resort where winter sports may be enjoyed, which is easy of access and which, moreover, is not far removed from a town centre. For such the health resorts in the immediate neighbourhood of Christiania should be given first place. The claims of Trondhjem should also be considered. Some will doubtless prefer the inland and upland health and sports centres chiefly situated in the eastern districts of Norway. It is well to remember that the telephone affords a means of linking up the seemingly most isolated parts of the country. I propose to describe the chief features of some of the health resorts most likely to appeal to English visitors.

HEALTH STATIONS NEAR CHRISTIANIA.

The best known, most accessible, largest, and most elaborately equipped of Norwegian health establishments are to be found on the southern spur of the forest-covered mountain range of Nordmarken, some seven kilometres or an hour's journey by electric car from the centre of Christiania. Here, on the northern side of the city, at an altitude of from 1100 to 1480 feet, several so-called "sanatoriums" are situated on dry, rocky soil, surrounded by thick forests of pine and fir, admirably sheltered from the cold winds coming from the north, open to the south, with abundance of sun, and unrivalled views over Christiania and its beautiful fjord and away to the rolling mountains of Telemarken and the southern and south-western districts of Norway.[2] The situation is almost ideal. Here within easy reach of all the privileges and conveniences of the country's capital and university centre, and with all the attractions of a city having a monarch's residence, a national theatre, educational and other institutions of the best, and a water and rail service to all parts of Europe, are placed health and sports stations which may well compare with the best in any part of the world.

The natural resources are many and the most has been made of them. The pure mountain and forest air, the sheltered walks, the subalpine climate, the freedom from fogs, the abundance of sunlight, and the protection from winds, combine to afford health-giving and renewing forces eminently suited to the requirements of the overworked and mentally fagged patients debilitated by disease, convalescents of all kinds, subjects of insomnia and other nervous ailments and sufferers from asthma and other chronic affections. Tuberculous and all cases in any way of an infectious nature, needless to say, are not welcomed.

During the winter the residents of Christiania following the example of King Haakon and Queen Maud resort in ever-increasing numbers to this delightful district to engage in the fascinating sports of tobogganing, ski-ing, and the like. The sanatoriums are open all the year round but their chief attractions, at least for many, exist during the winter months. Brief reference can only be made to the chief establishments. In addition to those mentioned there are some few *pensions* to which Norwegians resort and many private villas have now been built for permanent residents.

Holmenkollen Sanatorium (Fig. 1) was established in 1894 through the enterprise of Dr. I. C. Holm. It was designed by the architect, B. Lange. It now consists of two buildings containing 70 and 100 beds respectively. The main front which faces due south contains 26 spacious apartments. Along the north side runs a broad well-lighted corridor. At the west end in a large wing are placed the dining and drawing rooms, billiard room, and consulting rooms. The picturesque entrance hall and lounge are artistic and comfortable. Practically all the rooms are heated by a central low-pressure heating apparatus and lighted by electricity. The new annexe, designed by the architect O. Sverre, lies to the north-west of the main block and contains 36 rooms, of which 20 face south. There is an excellent new bath house where all forms of baths may be obtained. Provision is also made for the conduct of electrical treatment and massage under proper medical supervision. Dr. Olaf Bergh is the present resident physician. Inclusive terms vary from £8 to £14 per month of four weeks. Adjacent to the sanatorium is the celebrated Tourist Hotel, erected in 1896 in characteristic old Norse style and having its chief rooms adorned with historical and mythological scenes by Munthe and other Norwegian artists. Close by is the famous *Sportstue*, much frequented by sportsmen.

Voksenkollen Sanatorium, opened in 1900, is a thoroughly modern establishment erected at a higher elevation, also through the efforts of Dr. Holm, who acts as the resident director and physician and to whom your Commissioner is indebted for much kindness and information. The general characters of the building are shown in Fig. 2. The sanatorium is excellently situated and is in every way adapted to its purpose and may well claim the premier position among establishments of this class in Norway. It is a favourite resort of the King and Queen of Norway. There are 100 artistically furnished rooms, fitted with electric light, comfortably heated, well ventilated, and having modern sanitary appliances. The dining and drawing rooms are large and charming apartments and the central lounge, hall, staircase, and reading and smoking rooms, all richly ornamented in Norwegian style, are very attractive features. Dr. Holm has equipped his establishment with education. In proof of this they may mention, that no addition has been made for nearly a century, to the fee required in obtaining a diploma (which amounts to 6*l.* 5*s.*); so that were the proposed stamp-duty imposed, the expense of obtaining this certificate, already it is believed as large as those applying for it can afford, would be nearly trebled.

---

[1] Nos. I. and II. were published in THE LANCET of April 25th (p. 1235) and May 2nd (p. 1305), 1908, respectively.

[2] In the illustrations of the various establishments the buildings are not represented in any uniform scale, but their respective sizes can be gauged fairly accurately by observing the roof lines and the number of windows in the façades. No uniformity of scale was possible if any idea of the environing landscape was to be given.

In these circumstances, this tax could not fail to be most oppressive to those applying for surgical diplomas.

Your petitioners have also to represent, that a diploma in surgery, although at present generally taken by those educated at the different medical and surgical schools, is a mere certificate of qualification, not conferring any privilege, and is not required by law to be possessed by those who practise surgery or medicine in the greater part of the United Kingdom. In these circumstances, there seems great reason to fear, that the increased expense will absolutely prevent a large proportion of medical and surgical students from taking a diploma, and they will thus be deprived of the motive to go through the full course of education which they at present follow. In this way the interests of the community will be materially injured by the diminution of the number of properly qualified practitioners, and by the increase of the already-too-great number of the ill-educated and irregular; and the efforts which have been made, and are now making, to improve the education of surgeons, will be materially counteracted and impeded.

In the opinion of your petitioners, the proposed duty will operate as a tax for the prevention of the improvement and proper qualification of practitioners.

Your petitioners conceive, that even were the number of diplomas annually granted maintained at its present rate, the amount of the tax would be of little importance to the revenue; and they are satisfied, that the diminution which it is likely to occasion, would render it even less productive than is anticipated.

Your petitioners also strongly feel, that the proposed tax, by lessening the number of diplomas, would materially diminish their funds; which they have hitherto applied in promoting medical and surgical science, by the purchase and formation of extensive and valuable collections of anatomical and pathological preparations, and would involve them in great difficulties in the completion of the undertaking they have entered upon, of building suitable accommodation for rendering these preparations useful to the medical and surgical school of Edinburgh—a work which they will not be able to complete, even by the expenditure of their whole present funds, and which they commenced in the belief of the continuance of their present annual income.

Your petitioners therefore earnestly hope, that your honourable House will take the above statement into your serious consideration, and that you may be induced to abstain from sanctioning a measure, which will not, in their opinion, produce any good effect, and which they cannot but regard, for the reasons they have stated, as very oppressive to those engaged in the study of medicine and surgery—as detrimental to the improvement of medical and surgical education, and therefore injurious to the community—and as prejudicial to the interests of your petitioners.

May it therefore please your honourable House to take the above statement into consideration; and to grant your petitioners such relief in the premises as to your honourable House shall seem meet."

THE ROYAL SOCIETY.

THE conversazione of the Royal Society was held on May 13th, and though the exhibits, as a rule, were rather physical than biological, yet there were various items of interest connected with medicine having a distinct bearing upon the subject. First of all was the exhibit of Dr. E. F. Bashford on behalf of the executive committee of the Imperial Cancer Research Fund, dealing with cancer as a manifestation of cell life throughout the vertebrates. In these exhibits it was demonstrated that every animal appears to have its own cancer and that, for instance, the cancerous cells of mice cannot be propagated in rats or *vice versâ*. Another subject demonstrated was that of protection against the experimental transmission of cancer, from which it appeared that the experimentally protected animal does not supply the scaffolding of supporting tissues and vessels without which implanted cancerous tissues cannot grow into a tumour. Another very interesting exhibit was that of Mr. J. W. Gordon and Mr. H. Fletcher Moulton of a new object glass for high-power magnification. It was designed upon the principle already made known by Mr. Gordon of an oscillating screen which was described in our issue of Jan. 13th, 1906, p. 206. In the present instrument the oscillating screens had been done away with, as it had been found that the necessity for keeping the screen in motion gave rise to inconveniences and the screen now consists of a very fine deposit of precipitated sulphate of barium placed on the vertex of the front lens of the objective combination. A mirror pierced with a small central aperture, through which an image-forming beam of light can reach this screen, is formed by depositing silver on that surface of the front lens which would be its front surface were the objective used as a dry objective. In front of the mirror so deposited is placed a spherical lens, having its centre of curvature situated on the sulphate of barium screen, so that focussed rays passing through this front surface of the lens may pass without refraction. A demonstration was given of anthrax bacilli magnified to 8000 diameters and having perfect clearness of definition.

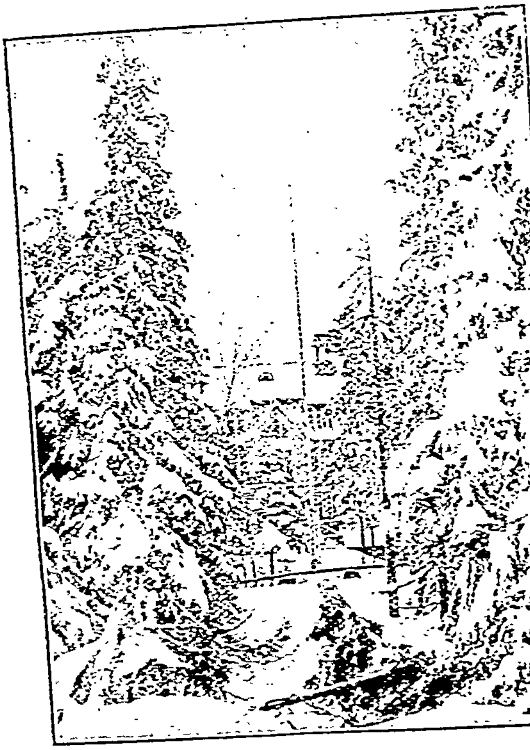
Mr. J. E. Barnard showed his mercury vapour lamps for microscopic illumination which when used in combination with an absorbent colour-screen may be made to transmit only monochromatic light. The Marine Biological Association of the United Kingdom had a very interesting exhibit of living marine fauna from the neighbourhood of Plymouth, and among other notable exhibits were Mr. Joseph Gould's uniformly symmetrical twin elliptic pendulum and Mr. Benham's method for getting twin elliptic figures available for a stereoscope. Messrs. Johnson, Matthey, and Co., Limited, showed a variety of chemical apparatus such as flasks, crucibles, and the like in transparent fused silica, and Professor J. Symington, F.R.S., together with Dr. J. C. Rankin, showed a magnificent series of skiagrams illustrating the development of teeth in man. Great interest was shown in Professor W. B. Bottomley's exhibit of the bacterial treatment of non-leguminous plants such as barley, turnips, radishes, and tomatoes. The effect of bacterial cultures used is not merely to make the plant tissues absorb nitrates or nitrogen but to bridge the gap between the nitrate and an amide, so that, like Mother Carey in the Water Babies, the bacteria make plants make themselves.

FIRE AT GORDON COLLEGE, KHARTOUM.—We regret to learn that an alarming fire broke out in the Wellcome Research Laboratories, Gordon Memorial College, Khartoum, on May 11th, and that before it was got under control considerable damage was done.

THE FIRST INTERNATIONAL FIRST AID AND LIFE-SAVING CONGRESS.—In THE LANCET of April 11th we published a preliminary abstract of the arrangements which had then been made for the First International First-Aid and Life-Saving Congress to be held at Frankfort-on-the-Main from June 9th to 13th. The proceedings will be conducted in a number of sections, two of which will deal with medical first aid in cases of accident and the instruction of non-professionals in first aid. The other sections will be devoted to ambulance work under a variety of conditions—namely, in towns, in the country, on railways, at sea and on inland waters, in mines, at fires, and so on. Any resident in the United Kingdom who is interested in the subject and is desirous of attending the Congress should communicate immediately with the honorary secretary of the English committee, Mr. S. Osborn, F.R.C.S. Eng., Maisonnette, Datchet, near Windsor. The following are the five principal routes from London to Frankfort, the fares being in each case appended: (1) Harwich, Hook of Holland, Rotterdam, Cologne (first-class, single £3 10*s.* 3*d.*, return £5 9*s.* 10*d.*; second-class, single £2 6*s.*, return £3 15*s.* 6*d.*); (2) Harwich, Antwerp, Cologne (first-class, single £3 5*s.*, return £4 19*s.* 7*d.*; second-class, single £2 0*s.* 8*d.*, return £3 7*s.* 4*d.*); (3) Queenborough, Flushing, Cologne (same fares as by Harwich and Hook of Holland route); (4) Dover, Calais, Brussels, Cologne (first-class, single £4 4*s.* 5*d.*, return £7 0*s.* 11*d.*; second-class, single £2 18*s.* 6*d.*, return £5 2*s.* 2*d.*); and (5) Dover, Ostend, Brussels, Cologne (first-class, single £3 14*s.* 2*d.*, return £6 3*s.* 2*d.*; second-class, single £2 11*s.* 8*d.*, return £4 9*s.*). Mr. Osborn will send on application a list of 20 Frankfort hotels at which the charges for a bedroom without breakfast vary from 2 marks 50 pfennig to 4 marks per day.

all modern means for effective treatment. The baths are good and there is an installation for electrical and light treatment. A large and airy gymnasium provides for the exercise of all forms of physical treatment. The immediate environs of the sanatorium are particularly delightful. The terms vary from kr. 168.00 to kr. 250.00 per month corresponding to kr. 6.00 to kr. 9.00 per diem, prices which are considerably less than would prevail in an establishment of the same kind in England.[3]

FIG. 3.



Anne Kure's Hotel, near Christiania.

Anne Kure's Hotel (Fig. 3) is a less pretentious but thoroughly comfortable establishment, situated between the above-mentioned sanatoriums. It is under the personal management of Miss Anne Kure and in all respects not only appears excellently conducted but is highly spoken of by Norwegian people as a peculiarly quiet and restful retreat. Its prices are certainly most reasonable, ranging from kr. 4.50 to kr. 7 per day.

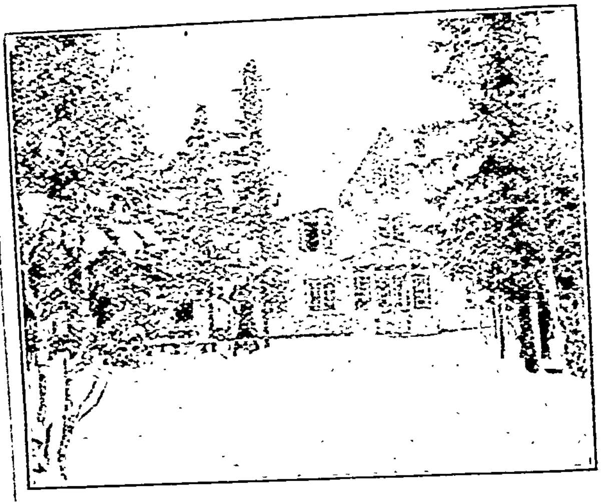
The *Pensionatet Voksenkollen Hospits* is a simple, well-conducted establishment much frequented by Norwegians, where the tariff is as low as kr. 2.50 per day.

A NORTHERN WINTER RESORT.

Trondhjem, the cathedral and coronation city of the North, is an exceedingly interesting centre.[4] Although Trondhjem can be reached directly by steamers from Newcastle and Hull, most visitors in the winter will doubtless prefer to travel by rail from Christiania, and by the night service comfortable sleeping arrangements are provided. The excellent provision for hot meals at set times at definite halting-places robs a journey in Norway of one of the chief disadvantages of long-distance travel. The only legitimate complaint that can be brought against the railway carriages is that they are almost invariably overheated. The traveller may, however, do much to regulate the temperature to his liking.

Medical men visiting Trondhjem should not fail to visit the leper hospital on the outskirts of the town. It affords one of the most pathetic sights to be seen in Europe. The eldest patient there examined by your Commissioner was said to be 84 years of age and had been there since 1862. The youngest inmate was a little girl aged three years. The only other leper hospital now existing in Norway is at Bergen.

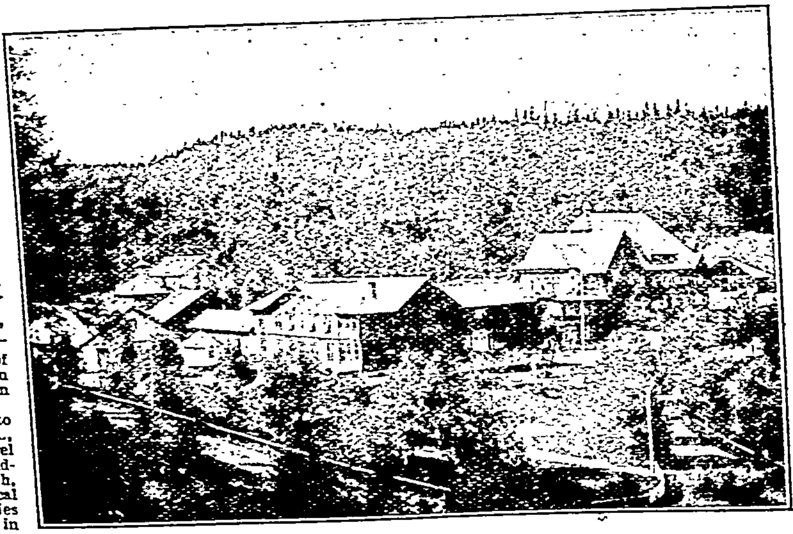
FIG. 4.



Tofte Sanatorium, Gudbrandsdal.

The chief health resort near Trondhjem is at Fjeldsæter, five miles from the city at an altitude of 1200 feet. Here at the Fjeldsæter Tourist Hotel on Graakall Hill comfortable quarters may be obtained in picturesque old Norwegian style. There are excellent opportunities for reindeer-driving, ski-ing, and other forms of winter sports, and here occurs the celebrated sports meeting where athletes from all over the country congregate and compete.

FIG. 5.



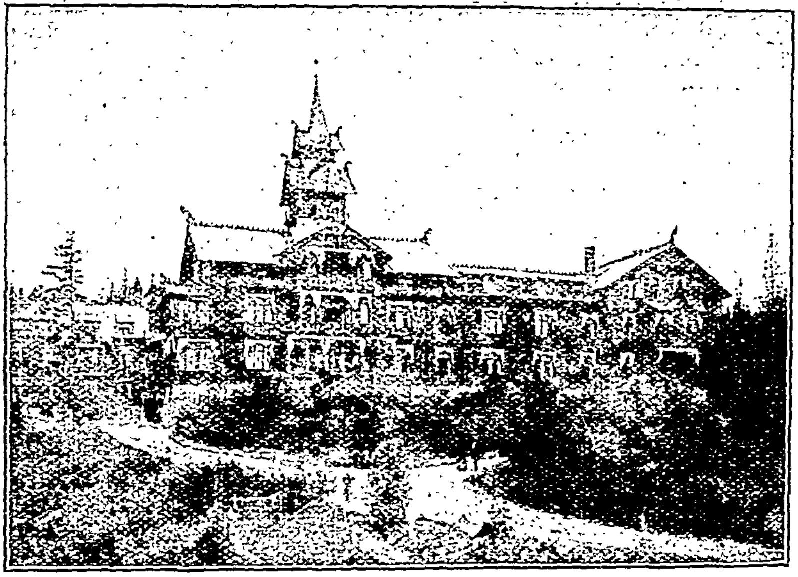
Tomaasen's Sanatorium, Valdres.

---

[3] A well-illustrated booklet descriptive of Voksenkollen Sanatorium and printed in good English will be sent to any physician applying to Dr. Holm.

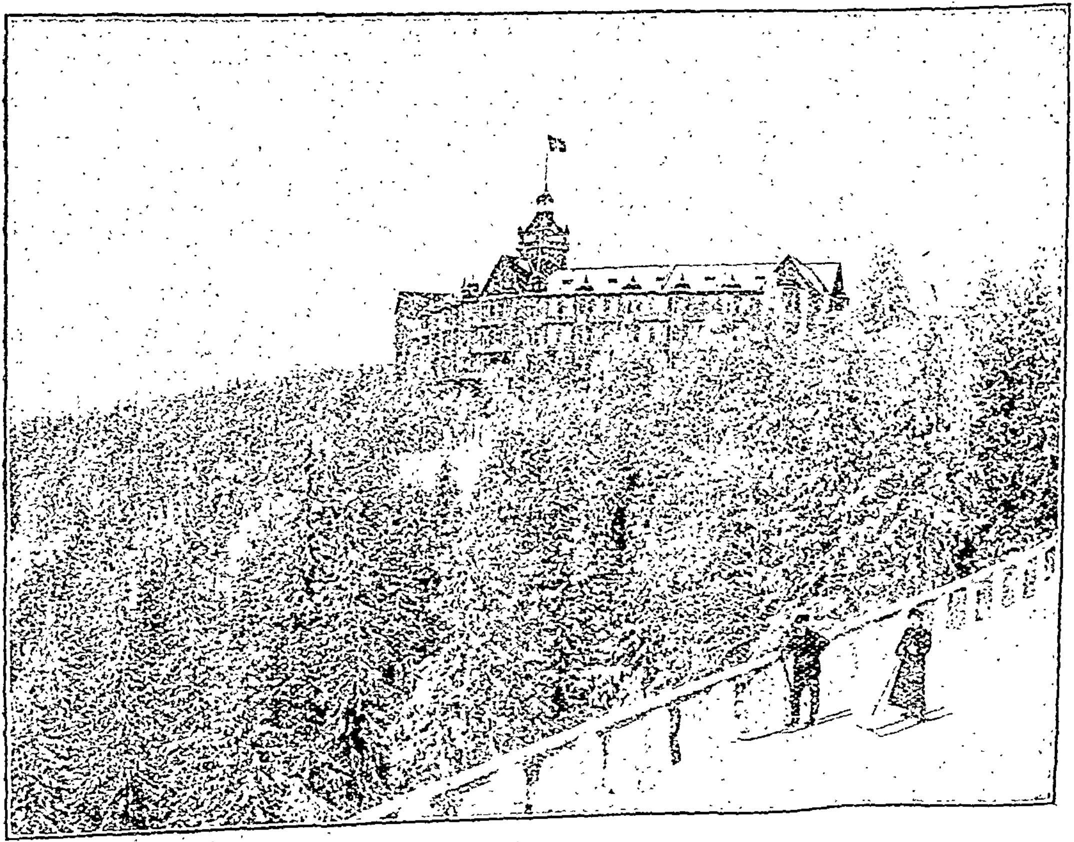
[4] Visitors to Trondhjem would do well to communicate with Mr. Robert Millar, B.A., the secretary of the Trondhjem Travel Society (Turisttrafikforeningen i Trondhjem). A periodical printed in English, "The Tourist News," affords much local information. The Scandinavian Fisheries Exhibition is to be held in Trondhjem in July and August next, and should attract many English summer visitors.

FIG. 1.



Holmenkollen Sanatorium, near Christiania.

FIG. 2.



Voksenkollen Sanatorium, near Christiania.

of these, 27 resulted from measles, 19 from whooping-cough, 13 from diarrhœa, seven from "fever," six from diphtheria, and five from scarlet fever, but not one from small-pox. These 77 deaths were equal to an annual rate of 2·2 per 1000, the mean rate from the same diseases in the 76 English towns during the same week not exceeding 1·1. The 27 fatal cases of measles in the Scotch towns exceeded the number in the previous week by three, and included 16 in Glasgow, four in Edinburgh, four in Aberdeen, and three in Greenock. The deaths from whooping-cough, which had been 12 and 20 in the two preceding weeks, were 19 in the week under notice, of which seven occurred in Glasgow, four in Edinburgh, and two each in Dundee, Aberdeen, and Paisley. The 13 deaths attributed to diarrhœa corresponded with the number in the previous week, including four in Glasgow, three in Edinburgh, three in Aberdeen, and two in Dundee. The seven deaths referred to "fever" exceeded the number in the previous week by two, and were all certified as due to cerebro-spinal meningitis; five occurred in Glasgow and two in Edinburgh. Five of the six fatal cases of diphtheria were returned in Glasgow; and the five deaths from scarlet fever included three in Glasgow and two in Leith. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 113 and 107 in the two preceding weeks, rose again to 119 in the week under notice, and exceeded the number returned in the corresponding week of last year by 11. The causes of 16, or 2·5 per cent., of the deaths in these eight towns during the week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 1·3 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 21·1 and 21·9 per 1000 in the two preceding weeks, further rose to 25·0 in the week ending May 9th. During the first six weeks of the current quarter the death-rate in Dublin averaged 23·3 per 1000; the mean rate during the same period did not exceed 15·2 in London and 15·9 in Edinburgh. The 189 deaths of Dublin residents registered in the week under notice showed a further increase of 23 upon the numbers returned in recent weeks, and included eight which were referred to the principal epidemic diseases; they were fewer by two than those in the previous week. These eight deaths were equal to an annual rate of 1·1 per 1000, the rate during the week from the same diseases being 1·0 in London and 1·9 in Edinburgh. Of the eight deaths from epidemic diseases in Dublin, three resulted from diphtheria, two from measles, and one each from scarlet fever, whooping-cough, and "fever," but not one from diarrhœa or small-pox. The five fatal cases of diphtheria registered during the fortnight ending May 9th were the first recorded in Dublin since the middle of March. The 189 deaths from all causes in the city during the week included 37 of infants under one year of age and 56 of persons aged upwards of 60 years; both these numbers showed a further increase upon those returned in recent weeks. 13 inquest cases and nine deaths from violence were registered, and 70, or 37·0 per cent., of the deaths occurred in public institutions. The causes of ten, or 5·3 per cent., of the deaths registered in the city during the week under notice were not certified; the causes of all but two of the 1273 deaths in London last week were duly certified, as were the causes of all the 104 deaths in Edinburgh.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Inspector-General of Hospitals and Fleets Sir Herbert Mackay Ellis, K.C.B., K.H.P., Director-General of the Medical Department of the Royal Navy, has this day been placed on the retired list at his own request (dated May 11th, 1908).

The following appointments are notified:—Fleet-Surgeons: R. H. Nicholson, to the *President*, additional, for three months' course at London Hospital; and G. G. Borrett, to the *Royal Arthur*. Staff-Surgeons: W. K. Hopkins, to the *Royal Arthur*, temporary; S. H. Birt, to the *Crescent*; O. Rees, to the *Fox*, on commissioning; F. A. Capps, to the *Mercury*; and R. Waterfield, to the *Challenger*. Surgeons: C. A. G. Phipps, to the *Psyche*; and R. Willan, to the *Donegal*.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated April 29th, 1908): Alexander J. MacDougall and Maurice Swabey.

TERRITORIAL FORCE.

Royal Army Medical Corps.

The undermentioned officers to be Colonels and are appointed Administrative Medical Officers of Divisions:—Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Peter B. Giles, from the 1st Herefordshire Volunteer Rifle Corps (dated April 1st, 1908); Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Andrew Clark (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, 2nd London Volunteer Infantry Brigade), from the 4th Middlesex (Kensington) Volunteer Rifle Corps (dated April 1st, 1908); Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Philip E. Hill (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, South Wales Border Volunteer Infantry Brigade), from the 1st Volunteer Battalion, The South Wales Borderers (dated April 1st, 1908); Lieutenant-Colonel and Honorary Colonel William Coates, C.B., from the Manchester Companies, Royal Army Medical Corps (Volunteers) (dated April 1st, 1908); Lieutenant-Colonel and Honorary Colonel Sir George T. Beatson, K.C.B., from the Glasgow Companies, Royal Army Medical Corps (Volunteers) (dated April 1st, 1908); Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Joseph W. Blandford (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Tees Volunteer Infantry Brigade), from the 1st Volunteer Battalion, The Durham Light Infantry (dated April 1st, 1908); Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel John R. Thomas (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Devonshire Volunteer Infantry Brigade), from the 4th Volunteer Battalion, The Devonshire Regiment (dated April 1st, 1908); Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel George S. Elliston (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Suffolk Volunteer Infantry Brigade), from the 1st Volunteer Battalion, The Suffolk Regiment (dated April 1st, 1908); Lieutenant-Colonel and Honorary Colonel James Turton (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Sussex and Kent Volunteer Infantry Brigade), from the Sussex and Kent Bearer Company, Royal Army Medical Corps (Volunteers) (dated April 1st, 1908); Surgeon-Lieutenant-Colonel Charles A. MacMunn (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Staffordshire Volunteer Infantry Brigade), from the 3rd Volunteer Battalion, The South Staffordshire Regiment (dated April 1st, 1908); Lieutenant-Colonel de Burgh Birch, from the Leeds Companies, Royal Army Medical Corps (Volunteers) (dated April 1st, 1908); Lieutenant-Colonel John S. Riddell, M.V.O., from the Aberdeen Companies, Royal Army Medical Corps (Volunteers) (dated April 1st, 1908); Major William P. Whitcombe (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Worcester and Warwick Volunteer Infantry Brigade), from the Worcester and Warwick Bearer Company, Royal Army Medical Corps (Volunteers) (dated April 1st, 1908); and Surgeon-Lieutenant-Colonel Damer Harrisson (late of the Lancashire Hussars Imperial Yeomanry) from the retired list (dated April 1st, 1908).

1st East Lancashire Field Ambulance: Major John Bently Mann, from the Manchester Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel, and is appointed to command the unit (dated April 1st, 1908).

IMPERIAL YEOMANRY.

Scottish Horse: Surgeon-Lieutenant David M. Macdonald to be Surgeon-Captain (dated March 31st, 1908).

VOLUNTEER CORPS.

Rifle: The Queen's Rifle Volunteer Brigade, The Royal Scots (Lothian Regiment): Supernumerary Surgeon-Major Arthur D. Webster (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, 1st Lothian Volunteer Infantry Brigade), to be Surgeon-Lieutenant-Colonel, remaining supernumerary (dated March 26th, 1908). Surgeon-Lieutenant Laurence W. Pole resigns his commission (dated March 31st, 1908). 3rd (Sunderland) Volunteer Battalion, The Durham Light Infantry: Surgeon-Lieutenant William B. Milbanke to be Surgeon-Captain (dated March 10th, 1908). 1st (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and

INLAND WINTER HEALTH STATIONS.

Gudbrandsdal and its immediate district and adjacent valleys offer special opportunities for the sportsman and health seeker, and as the railway extends along the valley from Lillehammer as far as Osta the health stations in this neighbourhood are fairly readily accessible.[5] Chief among the all-the-year-round resorts must be placed *Tofte Sanatorium* (Fig. 4) which your Commissioner, through the kindness of Mr. John Sörensen, was enabled to visit. Here at an altitude of about 1900 feet above sea-level and 1200 feet above the valley on a spur of the mountain side Mr. Sörensen has established a thoroughly homely and in every way delightful winter retreat, where under almost ideal conditions the brain-fagged and bodily-wearied worker may recuperate or the convalescent regain strength. The establishment consists of two villa-like residences so placed as to secure far-extending views and free exposure to sunlight. The houses are of wood, exceedingly warm and snug, and all the rooms are heated with soapstone stoves. The proprietor, who is himself a sufferer from asthma, has established this delightful station primarily for his own health's sake, but possessing wide sympathies and an intimate knowledge of England and other lands he hospitably opens his home to guests from all countries. Mr. Sörensen has taken an active part in educational work and has done much for the development of Norway. He has also established a charming summer hoifjelds sanatorium at Lauvaasen, on the mountain plains above Tofte, at an elevation of 3000 feet above the sea.

The *Fefor Mountain Hotel*, near Vinstra railway station, is open for the Christmas holidays and from February to April.

The *Feforhampens Hotel* and *Hoifjelds Sanatorium*, situated in Nordre Frou, 12 kilometres distant from Vinstra railway station at an altitude of 3000 feet, is open throughout the year.

During the summer many other establishments are open and considerable numbers of visitors take small houses and bring their families for the free and open life of the high mountains. Visitors to this district should on no account miss seeing the admirable collection of old Norwegian houses from Gudbrandsdal with their ancient furniture and equipment, now belonging to the town of Lillehammer.

Tonsaasen Sanatorium (Fig. 5) is situated in Valdres at an altitude of 2020 feet. It was originally established for consumptives but has now been rebuilt and tuberculous cases are excluded. It is open all the year round and affords facilities for every kind of sport. Convalescents, neurasthenics, and delicate and overworked patients are received, but many resort here for holidays and recuperation and the special outdoor pursuits of winter. The rooms are large, picturesque, and artistically adorned, electrically lighted and centrally heated with stoves. There is a resident physician. Inclusive prices vary from kr. 140–240 per month, according to the size and position of room.[6] The railway is within easy drive and Tonsaasen is only about half a day's journey from Christiania.

Within the limits of this article it has only been possible to touch on some of the most likely centres which at the present time might well be expected to attract and to meet the requirements of English visitors. It should, however, be clearly understood that Norway possesses almost limitless possibilities in regard to the supply of first-class winter health and sports stations. At present it is waiting for the demand but by a wisely directed anticipation Norway may go far to create the demand.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8977 births and 4433 deaths were registered during the week ending May 9th. The annual rate of mortality in these towns, which had been equal to 15·2, 15·4, and 15·7 per 1000 in the three preceding weeks, declined to 14·2 in the week under notice, a lower rate than has prevailed in any previous week of this year. During the first six weeks of the current quarter the annual death-rate in these towns has averaged only 15·5 per 1000, and in London the rate did not exceed 15·2 during the same period. The lowest annual death-rates in the 76 towns during the week under notice were 6·6 in King's Norton, 7·9 in Willesden, 8·0 in Walsall, and 8·4 in East Ham; the rates in the other towns ranged upwards to 19·6 in Merthyr Tydfil, 19·8 in Tynemouth, 20·1 in Liverpool, 23·0 in Preston, and 23·1 in Huddersfield. The death-rate in London during the week did not exceed 13·8 per 1000. The 4433 deaths in the 76 towns during the week showed a decline of no less than 463 from the number returned in the previous week, and included 329 which were referred to the principal epidemic diseases, against numbers ranging between 487 and 376 in the six preceding weeks; of these, 115 resulted from measles, 99 from whooping-cough, 42 from diarrhœa, 31 from diphtheria, 24 from scarlet fever, and 18 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to an annual rate of 1·1 per 1000, against 1·2 in each of the three preceding weeks; the rate from the same diseases in London did not exceed 1·0. No death from any of these epidemic diseases was registered last week in Blackburn, Norwich, Wolverhampton, Wigan, York, or in eight other smaller towns; the annual death-rates from these diseases, however, ranged upwards to 3·0 in Wallasey, 3·1 in Rhondda, 3·9 in Salford, and 4·6 in Bootle. The fatal cases of measles in the 76 towns, which had been 101 and 128 in the two preceding weeks, declined again to 115 last week; this disease caused the highest death-rates, 2·0 in Stockton-on-Tees and in Rhondda, 2·3 in Wallasey, and 2·8 in Salford. The deaths from whooping-cough, which had ranged from 204 to 122 in the six preceding weeks, further declined last week to 99; they caused, however, death-rates equal to 1·5 in Bootle, 1·7 in Barrow-in-Furness, and 2·0 in Merthyr Tydfil. The 42 deaths attributed to diarrhœa were fewer by 10 than the number in the previous week, and the 31 fatal cases of diphtheria showed a further decline of seven from recent weekly numbers; diphtheria caused four deaths in Liverpool, three in Manchester and Salford, and two each in West Ham, Portsmouth, Leeds, and Cardiff. Of the 24 deaths from scarlet fever, also showing a decline from recent weekly numbers, 13 occurred in London and its suburban districts and four in Liverpool. The 18 deaths referred to "fever" included five in Liverpool and Bootle and three in Manchester. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had been 2861 and 2928 at the end of the two preceding weeks, had declined again to 2870 on May 9th; 353 new cases were admitted to these hospitals during the week under notice, against numbers increasing steadily from 297 to 368 in the four preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 301 and 281 in the two preceding weeks, further declined to 228 during the week under notice, and were 27 below the corrected average number in the corresponding week of the five years 1903–07. The 28 deaths directly referred to influenza in London showed an increase of nine upon the number returned in the previous week. The causes of 56, or 1·3 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Leeds, Bristol, West Ham, Bradford, Nottingham, and in 45 other smaller towns; 10 uncertified causes of death were, however, registered in Liverpool, five in Birmingham, five in Preston, five in Gateshead, and three in Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 18·8 and 18·7 per 1000 in the two preceding weeks, declined to 17·8 in the week ending May 9th, but exceeded by 3·6 the mean rate during the same week in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 14·2 and 15·0 in Leith and Paisley, to 22·2 in Perth and 22·3 in Dundee. The 629 deaths in these eight towns showed a further decline of 29 from the numbers returned in recent weeks, but included 77 which were referred to the principal epidemic diseases, against 68 in the previous week;

---

[5] Particulars of many of the health stations in this district can be obtained from a well-illustrated manual, "Gudbrandsdalen og Lillehammer Reisehaandlog" (Kristiania: Trykt i Centraltrykkeriet, 1905), an English edition of which should be prepared without delay.

[6] The Scandinavian *krona* (kr.) containing 100 öre (ö) is roughly equivalent to 1*s.* 1½*d.*, or 27 American cents or 1 franc 39 centimes in French money.

of Christ. One cannot, therefore, help attaching primary importance to the living portion of the thankoffering of June 24th. I dislike using the word "success" in this connexion, yet one must feel that the true measure of success of the Church's offering that day will be, under God, in proportion to the number of living members of the Body of Christ who then offer themselves for the work of the Church in far distant lands. And I want, while there is yet time, to call attention to one special direction in which most urgent need exists in the hope that it may then be supplied. I refer to the work of female medical missions.

I will not attempt to dilate on the importance of that particular agency for the spread of the Kingdom of our Blessed Lord. I will only say that each year of added experience and work in India deepens in my heart the conviction of its extreme value and of the impossibility of attaining similar results in any other way. May I, therefore, express my most earnest hope—a hope shared by so many now in the front of the Church's battle—that amongst those who then offer themselves for the King's service there may be not a few thoroughly qualified lady doctors and nurses. It is with deep regret that I learn that so far no offers of this kind have been received. Within the last few months some grievous gaps have occurred in the ranks of my own old mission at Delhi in this particular department, and one longs intensely to see these filled. But why particularise when the need is so widespread and so urgent! Will many join in prayer that it may be at this time largely met?

I am, Sir, yours faithfully,

Killiney, May, 1908. G. A. LAHORE.

THE EPIDEMIOLOGY OF DIPHTHERIA.

To the Editor of THE LANCET.

SIR,—In the above question I have always been most interested, more especially when there has been a possible relationship between the diphtheria of man and the diphtheria of the lower animals. For many years I had noticed the affection called roup, a laryngeal affection of the fowl, simulating in many ways the affection diphtheria in the child, and I had hoped some time or another to find a connexion between the two diseases.

Some few years ago I was medical officer of health of an urban district in the north of London; I was also in general practice. On one occasion I was called to see a child who suffered with a severe attack of laryngeal and tracheal diphtheria; within a few hours another child, a sister of the first child infected, became ill with true diphtheria. In tracing the cause of illness I found in the back yard of the house some fowls confined in the usual cramped chicken run in which was scattered the contents of ashbin, dust, cinders, and particles of food, mixed with chicken soft food and excreta, the whole wetted with rain-water and smelling most offensively. Two of the fowls had died from what the owner called the "croup," because the noise made by the fowl resembled the sound made by the breathing of a child with croup and similar to the child who was suffering with diphtheria. Two other fowls in the run were standing with ruffled feathers and heads tucked under wings, and appeared very ill. As the two children with diphtheria had been allowed to sit in the run and play with the fowls on several days up to the time they were ill I thought now my opportunity had come to prove the connexion between chicken roup and diphtheria of the human being. I purchased one of the sick fowls and had it conveyed in a basket with all haste to Professor G. S. Woodhead, then chief of the laboratories for research of the Colleges of Physicians and Surgeons of London. I related to him my suspicions. The fowl was examined by him, the mucous membrane of the throat was scraped and further examined; the fowl was killed and examined again after death. Professor Woodhead reported that after every kind of examination he could find no organism resembling in any way the Löffler bacillus of diphtheria in the fowl's mucous membrane. This evidence convinced me that the illness in the fowl somewhat resembling the diphtheria of the human being had no connexion the one with the other.

Since I have been medical officer of health in East Sussex I have also given this matter attention because of the large trade in poultry carried on in Sussex, this trade requiring a number of fowls to be kept in close confinement and fed by hand, &c., as well as the employment of women, men, and children at times in picking the feathers from the dead fowls and the process known in the trade as stubbing. The chief nuisance in connexion with this fattening of fowls is that caused by the offensive smells from the collection of the excreta. In the outbreaks of diphtheria, especially where poultry has been kept, I have tried to find some connexion between the poultry illness and the diphtheria and have failed. I have found those persons closely engaged in the fattening and feeding of poultry, &c., free from the illness diphtheria, while those not engaged in this trade have suffered from diphtheria.

With regard to this question of the possible relationship of diphtheria between fowls and human beings it is interesting to read the classical report to the Local Government Board by Dr. Airy on an epidemic of diphtheria at Buxted and Maresfield in the Uckfield rural sanitary district, July, 1888. The Uckfield rural sanitary district forms part of the sanitary combined districts of East Sussex, to which I was appointed in the year 1897. Early in the report Dr. Airy states: "At many of the small farms in the district, especially where cows are kept, chicken are fatted in large numbers for the London market. At one of them, not the cleanest, a child died of diphtheria early in the outbreak, but the illness could be otherwise accounted for, and there seemed no reason to attribute it to the fowls." Again, "In one or two instances, in answer to my inquiries, mention was made of some ailment or other among fowls, but in no case was there anything suggestive of dependence of the human disease upon any such ailment nor upon any disease of the lower animals."

I am, Sir, yours faithfully,

HUGH STOTT,

Medical Officer of Health of the Combined Sanitary Districts of East Sussex.

Lewes, Sussex, May 5th, 1908.

THE LONDON DIOCESAN CHURCH LADS' BRIGADE.

To the Editor of THE LANCET.

SIR,—Having the honour to be principal medical officer of the London Diocesan Church Lads' Brigade I wish to point out to the members of my profession the voluntary and excellent work being done by the officers of the brigade in gathering together the lads of the diocese and promoting amongst them habits of reverence, obedience, self-control, and all that tends towards Christian manliness. It is not for me to dwell upon the splendid results already attained; but as principal medical officer I take a keen interest in that branch of the work which comes immediately under my supervision—namely, ambulance and first aid.

There are at present 43 companies in which instruction in ambulance and first aid is being given, and it is only the lack of qualified medical men to act as lecturers that prevents the work being enormously extended. Companies in every part of London are eagerly waiting to welcome instructors, and I shall be glad if any medical men who can spare the time to give lectures weekly or fortnightly would communicate with the honorary secretary for ambulance, Captain Fred. W. Jones, 28, Sach-road, Upper Clapton, N.E.

Gentlemen offering their services have the option of being gazetted officers in the Brigade or not, as they wish. On receipt of any such names I shall be glad to interview or write very fully, giving all details, for the importance of this work cannot be over-estimated. The Brigade consists of 170 companies who meet together every Sunday for religious instruction and are also regularly trained in all branches of military drill, in addition to which seaside camps are held in August at Bexhill and Eastbourne.

I am, Sir, yours faithfully,

J. FAYRER, M.D. St. And.,

Lieutenant-Colonel, R.A.M.C., Principal Medical Officer L.D.C.L. Brigade.

Duke of York's Royal Military School,
Chelsea, S.W., May 6th, 1908.

PRESENTATION TO A MEDICAL PRACTITIONER.—At the distribution of prizes and certificates to the members of the Bristol branch of the Midland Railway Corps of the St. John Ambulance Association, which took place at Bristol on May 6th, Mr. James Smith Mather, M.B., C.M. Aberd., was presented with a clock as a mark of esteem and in recognition of his valuable services to the corps.

Sutherland Highlanders): Surgeon-Captain Alexander Leitch to be Surgeon-Major (dated March 23rd, 1908).

Royal Garrison Artillery (Volunteers): 1st Kent: Surgeon-Lieutenant Sanderson Mellor resigns his commission (dated March 31st, 1908).

Rifle: 3rd Volunteer Battalion, The Prince of Wales's Own (West Yorkshire Regiment): Surgeon-Lieutenant George E St. C. Stockwell resigns his commission (dated March 31st, 1908). George Ephraim St. Clair Stockwell (late Surgeon-Lieutenant) to be Lieutenant (dated March 31st, 1908). 2nd Volunteer Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned officer resigns his commission: Surgeon-Lieutenant Herbert Shipton (dated March 31st, 1908). 1st Volunteer Battalion, Princess Charlotte of Wales's (Royal Berkshire Regiment): Surgeon-Captain William M. Parham, resigns his commission (dated March 28th, 1908). 2nd Volunteer Battalion, The Queen's Own (Royal West Kent Regiment): The undermentioned officer resigns his commission, with permission to retain his rank and to wear the prescribed uniform: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Henry W. Roberts (dated March 31st, 1908). 4th (Donside Highland) Volunteer Battalion, The Gordon Highlanders: Surgeon-Captain David Maver resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 25th, 1908).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Northern Command: Leeds Companies: Captain Herbert J. Robson resigns his commission (dated March 31st, 1908). North-East Lancashire Bearer Company: William Fraser Munro to be Lieutenant (dated March 23rd, 1908).

DEATHS IN THE SERVICES.

Brigade-Surgeon William Pierce Kelly, retired pay, I.M.S., on May 2nd, at Dublin, aged 73 years. He entered the service as assistant surgeon in 1857, became surgeon in 1869, surgeon-major in 1873, and retired with the rank of brigade-surgeon in 1884. He took part in the Indian Mutiny campaign of 1858 and served with the North Canara Field Force (medal).

Brigade-Surgeon Edward Harford Lloyd, retired pay, Army Medical Service, on May 3rd, aged 72 years, at the Royal Naval Hospital, Chatham. He entered the service as assistant surgeon in 1859, became surgeon in 1873, surgeon-major in 1875, and retired with the honorary rank of brigade-surgeon in 1885. He served in the Soudan during the Nile expedition, 1884–85, and was in charge of the field hospital at Kaibar (medal with clasp and Khedive's bronze star).

THE TERRITORIAL FORCE AND THE RED CROSS SOCIETY.

The Army Council has directed the attention of the County Territorial Force Associations to the proposals made by the committee of the British Red Cross Society and approved by the Army Council for assisting in the relief of suffering and the care and disposal of the sick and wounded when the Territorial Force is mobilised for war. It is now desired to bring all county associations into communication with the Red Cross Society's county branches; and though the Army Council is not prepared to say at present what assistance the society may in the future be able to render to the first and second lines of medical assistance in the field, it is suggested that consideration may be given to the work that the society can undertake in respect to the general hospitals of the third line, and on the lines of communication, all in rear of the field army. The work in which the society can participate is summarised as provision of quarters and equipment for 23 general hospitals and of a certain proportion of the staff to supplement the permanent nucleus maintained and trained in peace time; arranging for the transport of sick and wounded; the establishment of refreshment stations on the lines of communication; and the formation of convalescent homes for officers and men.

INDIAN MEDICAL SERVICE EXAMINATIONS.

An examination for not less than 20 commissions in His Majesty's Indian Medical Service will be held in London on Monday, July 27th, and the five following days. Particulars regarding pay, promotion, &c., in the Service and the necessary forms of application can be obtained from the Military Secretary, India Office, London, S.W. Applications must reach the India Office on or before July 14th.

CHOLERA IN INDIA.

A *Times* telegram, dated Peshawar, May 12th, states that: "Owing to a few additional cases of cholera the 1st Northumberland Fusiliers and the Munster Fusiliers will not accompany General Willcocks's force against the Mohmands."

Count Benckendorf, the Russian Ambassador, through General Yermaloff, Military Attaché, by special order of the Empress Marie Feodorovna, President of the Imperial Russian Red Cross Society, has presented Major E. Hautonville Richardson with the war medal of the society, together with a letter conveying the heartfelt thanks of the society, for the services of his ambulance dogs in Manchuria during the Russo-Japanese War.

A Colonial Office telegram from Singapore states that Mr. C. T. Raikes, M.B. Oxon., M.R.C.S. Eng., L.R.C.P. Lond., Government medical officer, has died from plague contracted while performing a post-mortem examination. Mr. Wray, an assistant of Dr. Raikes, is also reported to have died.

Correspondence.

"Audi alteram partem."

RESEARCH DEFENCE SOCIETY.

To the Editor of THE LANCET.

SIR,—The committee of the Research Defence Society will be greatly obliged to you if you will make known the following facts. The society has at present about 1100 members, of whom about 100 are ladies. The following gentlemen have recently consented to be Vice-Presidents of the society: The Marquis of Salisbury, Lord Ludlow, Mr. Briton Rivière, Earl Egerton, Sir William Turner, Lord Fortescue, Sir Thomas Fraser, Sir John Banks, the Bishop of Chester, and Count Plunkett. By the death of Lord Poltimore, who also was a vice-president, the society has lost a good friend.

The *minimum* subscription for membership is 5*s.* yearly; but medical students are eligible for membership for a subscription of 2*s.* 6*d.* and it is to be hoped that a very large number of students will join the society. Branch societies are already being formed in many parts of the country. A considerable quantity of leaflets and pamphlets has been sent out in reply to requests for them; and the printing of other leaflets and pamphlets is going on rapidly. These publications include an essay by Colonel David Bruce on the Extinction of Malta Fever, an essay by Professor Cushny on the Experimental Study of the Action of Drugs, reprints of Lord Justice Fletcher Moulton's evidence before the Royal Commission, and of Professor Osler's evidence on Yellow Fever and Malaria; and leaflets on diphtheria antitoxin, the administration of the Act, the character and extent of the researches made in this country at the present time, the facts about curare, &c.

Arrangements are being made for an inaugural meeting of the society at an early date in London. Arrangements are also being made for debates in London or elsewhere, but, of course, the committee do not think it necessary to accept every "challenge" to a debate. The committee feel very strongly the urgent need of branch societies, and of corresponding members in those places which are not large enough for a branch society. They are well aware that the work of the Research Defence Society must be done all over the country and that no further advance can be made except by united and organised effort. They will be very happy to receive promises of help in this matter. The Research Defence Society has had a magnificent welcome and is bound to justify the confidence which the public has given to it.

I am, Sir, yours faithfully,
STEPHEN PAGET, Hon. Sec.

70, Harley-street, London, W., May 13th, 1908

THE PAN-ANGLICAN THANKOFFERING: FEMALE MEDICAL MISSIONS.

To the Editor of THE LANCET.

SIR,—If it is true that a country's wealth consists not in her Consols and hard cash but in her sons and daughters—and one is thankful to know that on every side this is being increasingly recognised—still more is this true of the Church and on closing most probably the very place or valve that should be opened. The ideal would be a system out of reach of the passengers ignorant of the complexity of ventilation problems and one which would supply so slow and well diffused a current of air as to be imperceptible. For this purpose the air should nowhere travel at a greater velocity than three feet per second. Yet I was told that in the smoke-room of the *Adriatic* the air could be made to travel at the rate of 70 feet per second, or close upon 50 miles an hour. No one could sit quietly and smoke in such a hurricane. The danger, therefore, on such ships would be too much ventilation, causing protests and leading to the complete closure of the ventilators, with the result that there might be no ventilation at all. The evils of these two extremes can only be avoided by the intelligent forethought and watchfulness of the attendants.

In dealing with the ventilation of the great transatlantic liners it has been my object to derive from such experience some lessons that might have a useful application on shore as well as at sea. Indeed, I have compared these big ships to floating cities where rich and poor, idle and industrious, live together. The force of circumstances has taught this great lesson that on board ship the best results are attained at the least cost by applying one and the same system of ventilation, heating, and drainage to the entire community. Are we sure that this rule is not equally applicable on land? It will be said that at sea there are the water and the waves to fight against entailing the restriction of space by compelling all to live together in the one ship. But on shore are there not also restrictions of space due not to the surrounding waters but, at least in large industrial centres, to the prohibitive cost of building land? Then if on shore there is not the same danger of water in the shape of huge waves dashing in upon us there is very often a constant invasion of the dwelling by volumes of dust, dirt, smoke, and vitiated atmosphere. These evils at least are absolutely unknown at sea. May not collective action be as necessary to cope with the evils of town life as with those of life at sea? Already, in regard at least to drainage, it is recognised that there should be a general system applicable equally to the dwellings of the poor as of the rich. Certainly I can testify from personal experience that common lodging-houses in London, where beds are obtained for 4*d*. a night, are as well drained as, and sometimes better drained than, the mansions of Mayfair. The equality in the sanitary principles which apply on the *Mauretania*, as well to the lavatories of steerage passengers as to those used by the millionaire who pays £200 for a suite in crossing the Atlantic, exists here on shore and in London. Indeed, some years ago I visited a mansion in an aristocratic neighbourhood belonging to a peer and found the drainage in a most dangerous and defective condition. In the better inspected common lodging-houses and slums of London nothing similar would be tolerated. Thus, then, and as far as constant sanitary inspection can bring this about, there is no difference permitted in regard to the sanitary efficiency of the systems of drainage allowed in dwellings, whether these be inhabited by the rich or the poor. It may be said that, so far as drainage is concerned, people who live on shore compare favourably with the dwellers on board these new floating towns such as the great transatlantic liners which I have recently described.

In regard to warming and ventilating the position is very different. On shore there is not, as a rule, collective enterprise in these respects. Each individual having to do the best he can for himself, the result is very unequal and unsatisfactory. But there can be no doubt that by association the burden of each individual might be considerably lightened and the general result very much improved. Nor has this fact been demonstrated only at sea. We have our *Mauretanias* and our *Lusitanias* on shore as well as on sea. The newly constructed Midland Hotel at Manchester may very appropriately be compared to the great liners. The population on board each of these ships may amount to 3250 persons, including a crew of 800 skilled and unskilled workers. The crew—that is, the staff—of the Midland Hotel is naturally not so large, for on board these ships there are 390 persons in the engineering and 70 in the sailing departments which are not needed at a hotel. Nevertheless the staff of the Midland Hotel numbers more than 400 and this may be compared with the 350 stewards and the 50 cooks of the *Lusitania* and her sister ship. The point is the same in either case. In the hotel as on board the ship there are some hundreds of workers earning a modest wage and yet they are supplied by machinery with the same carefully prepared and scientifically distributed supply of air to breathe. Thus mechanical ventilation is not inaccessible to the working class when the expense involved is shared by other and more fortunate members of the community. Indeed, the expense is not great if it is only incurred on a sufficiently large scale. In towns like Manchester there is a double reason why this should be done. Not only is ventilation—that is, a sufficient supply of air—required, but pure and clean air is needed. This does not exist in Manchester and can only be obtained by employing artificial means. Here, again, no one individual could afford to do this only just for himself and his household. But what the individual or the family cannot attempt a huge institution like the Midland Hotel may carry out with ease. Here under the same roof several hundred families can be accommodated and the cost of scientific ventilation when divided among so many represents but a small amount for each individual. Indeed, it is not dearer to live at the Midland Hotel of Manchester than in other equally luxurious establishments where no such elaborate mechanical means of ventilation have been applied; also there is a further economy in allowing only clean air to enter a building, for the furniture, hangings, clothes, walls, paintings, in fact, all that is within, remain clean for a much longer time. There are therefore less washing and other forms of cleansing needed and consequently there are less wear and tear. All who have been to Manchester know how quickly their linen and persons are soiled by the sooty atmosphere created by the many surrounding manufactories.

This grievance does not, however, exist within the Midland Hotel. There the visitor may hope to keep clean, for everything around him is clean. But such a result was not obtained without considerable care and trouble. The building is as elaborately ventilated as are the transatlantic liners and, further, the air is specially treated before it is admitted within the building. At a height of 70 feet from the basement, situated within an inner court, is the air inlet. Here the heavier dust from the streets cannot reach the inlet. It consists of two shafts each 12 feet square. These run down the side of the main wall, and the air, attracted by powerful fans, is treated in the basement of the building. First it is delivered against a series of screens placed zig-zag and covered with American cheese-cloth. By this means 360 square feet of filtering surface are opposed to the inrush of air. Once or twice a day in very clear weather, five or six times a day in very foggy weather, a vacuum cleaner has to be passed over all this filtering cloth, otherwise it would be soon choked up by the amount of dirt which it extracts from the air. On one occasion, in the month of October, the dirt thus retained was analysed and found to be composed of 19·5 per cent. of insoluble organic matter, consisting chiefly of soot with small quantities of hair and similar materials. The soluble matter present, mainly ammonium salts, amounted to 13·3 per cent.; the insoluble inorganic matter, chiefly sand, was 30·9 per cent., and 36·3 per cent. consisted of soluble mineral matter, such as salts of iron, sodium, potassium, ammonium, with traces of copper, aluminium, manganese, calcium, and magnesium. Such is the nature of the suspended matter that abounds in the atmosphere which the ordinary inhabitant of Manchester breathes. This is a very emphatic demonstration of the necessity of artificial mechanical ventilation in such dirty manufacturing centres as Manchester.

The cheese-cloth filter, however, does not suffice. After passing this first obstacle the air is drawn through a coke filter six inches thick, which has a superficial area of 224 feet. Here it leaves so much more dirt that the coke has constantly to be renewed, though no less than 400 gallons of water per hour are expended in the endeavour to keep it clean. Thus the air goes through a dry filter of American cheese-cloth first and then a wet coke filter six inches thick before it is considered sufficiently washed and cleansed. Between the two filters there are some steam coils to prevent the water freezing in winter, while in summer ice can be placed here so as to cool the air. In this underground department the walls are of white glazed bricks. These white bricks which are on the outside of the filter become, in spite of their glazed surface, absolutely black in the course of three weeks and have constantly to be washed. On the other side of the two filters all is beautifully clean. In the morning of my visit I found the temperature here was at 45° F. and in the winter garden above 58° F.

After the air filters come heating batteries in eight sections. They consisted of coils made of inch tubes and

THE VENTILATION PROBLEM AT SEA AND ON SHORE.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE "ADRIATIC" AND THE MIDLAND HOTEL, MANCHESTER.

THE White Star liner *Adriatic* is the third largest ship afloat. The *Lusitania* and the *Mauretania* of the Cunard line have their tonnage estimated at 32,500 and the *Adriatic* is 25,000. These three huge ships can each carry more than 3000 persons and therefore present all the sanitary and social problems to which I have alluded at length when describing the *Lusitania*.[1] We have the problem of ventilating luxurious saloons and overcrowded steerage. The poor emigrant and the millionaire are on board the same ship and depend on the same mechanical contrivances for the air which they breathe. The *Adriatic*, however, differs from the two great Cunarders inasmuch as it does not apply the plenum system of ventilation. On the contrary, it exhausts the air. The idea is to use power to draw out the foul air and to trust the fresh air to find its way in unaided. Nevertheless, this principle is not observed throughout. Some of the fans, for the most part electric fans, propel the air into the ship; but, as a rule, motive power is used for suction purposes. In these circumstances the action of the port-holes and ordinary inlets is a matter of much greater importance. Thus, on the saloon deck, where numerous small passages intersect the cabins, these have each a porthole provided with Uttley's ventilator. This is a system by which though the port is shut and waves may dash up against the pane of glass, nevertheless there is an aperture above by which the air can enter but not the water. Therefore, if the air is drawn out by machinery it will enter through the port-holes automatically. The cabins giving on to the promenade deck have windows for air inlets on one side and on the other side in the passages the air trunks overhead act as suckers to draw the air away. As for heating, that is not connected with the ventilating system. In saloons or passages, in fact, wherever the cold is likely to be felt, there are steam coils and some of the more luxurious suites of rooms have powerful electric heaters that can be turned on or off just as the passengers may desire.

In the great dining saloon there are openings all round in the wainscoting and also in the central ornamental glass dome. These openings communicate with trunks connected with rotating fans which produce an exhaust and draw air away by these channels. Some of the air comes in by the doors which are constantly opened and shut. Then there is a special draught-screen placed in front of the port-holes so that the air coming from them is sent upwards towards the ceiling. This being made of glass the light can pass straight through but the air is deflected. Close by in the pantry and kitchen there are several special suction trunks and a high shoot or shaft going up to the deck from the kitchen, and there is also a special trunkage just over the stove to draw the heat away. The power of the fans employed is such that, according to the experiments made, it would be possible to change the air of the saloon gallery in half a minute. The first-class smoke-room has special air inlets measuring 2·25 square feet and three sets of doors. The outlet surface in all measures 2·87 feet. In these latter so strong a suction can be produced that the air could be made to travel at the rate of 70 feet per second and the whole of the air removed in but little more than a minute. But, of course, this would not be endurable; however, the smoke, I was assured, is removed so rapidly that there is no unpleasant accumulation of tobacco fumes and yet there is no inconvenience due to draughts. The air of the saloon reading-room can be changed in one minute and that of the lounge in three minutes.

In the lower portions of the ship, on the main deck, where there is no promenade deck and the natural openings, the port-holes, are near to the water line, these chance air inlets are no longer sufficient. Consequently, it is necessary to pump air down as well as to draw air out. For this purpose a double set of air trunks or channels are needed. In the second class it appears as if there was more ventilation, certainly there is more artificial ventilation than in the first class. But in one place I found an inlet so near to an outlet that the fresh air must have passed straight from one to the other without doing much to improve the surrounding atmosphere. For the steerage on each side of the deck there are two very powerful fans 4 feet in diameter. In case of accident a by-pass would place the two sets of air-channels in communication, so that one fan could supply air to both sides of the ship. All the cabins have openings above the doors or near to the ceiling, and thus they participate in the great and constant movement of air that occurs in the passages outside the cabins. It is only because such powerful mechanical means of ventilation have been employed that it was possible to establish on board an innovation which distinguishes the *Adriatic* from all other ships afloat. The German ships had already instituted mechanical gymnasiums and these are also to be found on the *Adriatic*. Machinery provides a very good imitation of horse riding for ladies and gentlemen. Or they may have rowing exercise or experience various forms of massage by machinery. But close to this gymnasium there is a luxuriously appointed Turkish bath and this is not to be found on any other ship. There is a small hot room, a fairly large temperate room, and a large cooling room. Then there are two shampooing rooms, douche, and so large a plunge bath that it is possible to swim a few yards. Finally, there are three rooms for light baths, electric baths, and couches for massage. Naturally, all the air has to be supplied artificially to these departments, particularly as they are low down on the main deck and have four decks above them.

Throughout the ship the lavatories draw air through louvred doors from the passages towards the strong suction trunks within. Thus no air goes from the lavatories into the ship, but, on the contrary, the lavatories are themselves outlets. For the closets Doulton's Arogon basins are employed, and these have an after-flush in case the movement of the ship causes the water seal to be broken. Then a spread-fan distributes the water over the urinals and there are valves to increase or to lessen the flow of water according to the circumstances. It has not been found practical to employ automatic flush tanks on board ship where sea-water is used for these sanitary purposes. Cinders and seaweeds are liable to get into this water and they block up the very small pipes of the automatic flush-tanks.

It will be seen that the *Adriatic* is ventilated on the opposite system to that of the *Mauretania* and the *Lusitania*. The argument used is that though the plenum system employed on these two ships is theoretically the best the exhaust or vacuum system is practically the most effective in the rough-and-tumble usage of a sea voyage. Again, objection is raised to driving heated air along very lengthy air-trunks. If such air is to reach its destination at the required temperature it must be hotter than needed at the commencement of its voyage. Consequently, near and about the point of departure it overheats the air trunks, and this causes inconvenience in the neighbourhood of these superheated portions of the air channels. The thermo-tanks used in connexion with the plenum system warm the air at the point of departure. On the *Adriatic* the air is not heated at all; but radiating heat is supplied in steam coils in all parts of the ship where it is wanted. Which of these two systems is the best I cannot say and to pronounce an opinion must wait till I have had an opportunity of travelling on such ships. At Southampton I went over the *Adriatic* while she was in port and just before her departure when the fans were working and the air was circulating in the air trunks. All I can say is that there exists ample power to change frequently the atmosphere within the ship, but to do this in such a manner as not to cause draughts and inconvenience is another matter. The efficacy of the service must in a large measure depend on attentiveness and on the intelligence of the engineers and stewards in charge. There are certainly inlets which are not sufficiently protected by baffles to break up and so to distribute the air as to prevent draughts. It will be necessary to repeat many times that it does not suffice to supply as much air as is wanted. Above all, this air must be distributed in such a manner as not to cause cold draughts. To neglect this precaution is the sure way of stopping all ventilation, as those who suffer will find some means of closing the ventilator. Therefore, it does not suffice to go over a ship in port and to note a plentiful supply of outlet and inlet ventilating grids, &c. Practical experience is needed and constant observation during a voyage to know how far the system acts and whether the passengers will allow it to act or will insist on interfering

---

[1] THE LANCET, Jan. 4th, 1908, p. 54.

Œdema of the chiasma was liable to appear in acute inflammation of the frontal or sphenoidal sinus. Pressure on the optic nerve might follow an inflammation of the ethmoidal labyrinth. Chronic inflammatory conditions in the posterior accessory nasal sinus might cause changes in the ocular muscles. Injuries during operations on these sinuses might cause post-operative blindness, sometimes on the other side from that on which the operation was performed, if the inner bundle of the chiasma had been injured. Dr. Onodi expressed his hope that coöperation of rhinologists and ophthalmic surgeons would prevent post-operative blindness and that produced by neglected conditions of the nasal sinuses, but he reminded the surgeons that in spite of nasal symptoms blindness might occur from other causes (toxic, neuritic). A large collection of splendid anatomical specimens helped to illustrate the paper, showing that the sulcus opticus was often formed by a wall of sphenoidal or ethmoidal cells.

Dr. GLUCK (Berlin) read a paper on the

Surgical Treatment of Tubercle and Cancer of the Larynx.

He advocated total extirpation of the larynx in complicated cases and partial extirpation in non-complicated cases. The mortality of the operation has been reduced to *nil* in the simple cases, whilst in cases where the pharynx or the glands had to be removed at the same time the death-rate was from 9 to 13 per cent. If the growth extended beyond the region of the larynx itself or if it invaded both halves total extirpation was necessary. He showed five patients without their larynges who were in good health and for several years had been able to work. In cases of metastasis or mediastinal tumours or aneurysms, with compression of the upper air passages, where radical cure was impossible Dr. Gluck established, in order to relieve the dyspnœa, a pulmonary fistula by making a communication between the pectoral wall and one of the larger bronchi. This method had been already hinted at by Professor von Schrötter in his essay on mediastinal growths.

Intranasal Operations.

Professor DENKER (Erlangen) explained his system of performing intranasal operations from the mouth. The method briefly was as follows. He divided the mucosa of the mouth on the upper alveolus, where it begins to descend to the lip on both sides, and by means of an elevator or raspatorium he pushed up the soft parts so far that the whole maxilla and the lower margin of the orbit were accessible. In this way tumours of the nasal fossæ of the maxilla could be readily removed, the turbinals could be easily detached, the ethmoidal labyrinth was accessible, and the choanæ as well as any growths of the pharynx could be reached. The method had been chiefly advised for the removal of neoplasms, and when this had been done the oral wound was primarily sutured after packing the cavity of the bones, and boric acid lotion was used for washing the mouth. Professor Denker had operated on six patients in this way. He claimed that his method gave ready access to the tumour, caused little hæmorrhage, and produced an ideal cosmetic result as compared with the extensive resections of Langenbeck, Kosher, and Nélaton; it required no preliminary tracheotomy or ligature of the carotid vessels and the after-treatment was very simple.

Professor DENKER also read a paper on the treatment of Malignant Disease of the Nose. He said that he was a firm believer in surgical operations for this condition, since all other forms of treatment, such as radium, x rays, and chemical and fermenting or dissolving agents had proved unreliable.

On April 23rd Sir FELIX SEMON read a paper in English on the

General Treatment of Local Diseases of the Upper Air Passages.

He emphasised the necessity of individualisation and explained the generally accepted methods of treatment of lesions of the upper air passages whether depending on syphilis, tuberculosis, malignant disease, catarrhal affections, and general systemic diseases, such as gout and anæmia. He especially warned the profession against publishing reports of alleged cures of malignant disease by remedies which only served as the basis of paragraphs appearing in ordinary newspapers. Trypsin was one of these so-called remedies; it had had enough time to prove its efficiency but failed to do so. In conclusion, he said that nobody could become a good specialist who was not also a good general physician.

Dr. HERYNG (Warsaw) read a paper on

Inhalation as a Therapeutic Factor.

He said that hitherto most forms of inhalation apparatus were open to the objection that the spray which they supplied was too cold. The temperature of the trachea was usually above 98° F., whilst the temperature of the common warm spray did not exceed 88° F. Therefore condensation of the spray could not take place in the trachea or the alveoli unless the spray was much more heated when it entered them. The possibility that liquids might enter the lung in droplets had been proved by Bulling and von Schrötter by means of artificial breathing. Dr. Heryng had constructed three types of spray apparatus, two of which supplied "cold sprays" at temperatures up to 88° F., and "warm sprays" up to temperatures between 98° and 140° F.; the third apparatus was called a thermo-accumulator and was adapted for the vaporisation of heavy aromatic, balsamic, or antiseptic substances at a temperature of about 130° F. In order to make these vapours capable of being inhaled they must be charged with a sufficient quantity of air and steam. The heavy, hot vapours penetrated quickly into all parts of the lung and permeated the walls of the vessels by a quick absorption. They could soon be found in the circulating blood and in the urine, thus proving their applicability in the treatment of general diseases. Dr. Heryng employed his apparatus for the treatment of affections of the nose, throat, larynx, and bronchi, for disinfection in mixed tuberculosis of the lung (secondary infection), and for charging the system with iodine in asthma and arteriosclerosis.

Dr. HERYNG also read a paper on

The Treatment of Tuberculous Disease of the Larynx.

He said that he had made it the business of his life to find a proper treatment for this disease. He advocated early surgical interference with the local growths and the touching of ulcers with a saturated solution of permanganate of potassium or a solution of malachite green of 2 per cent. strength. No efforts should be spared to remove all the disease from the larynx as early as possible, provided that the patient was capable of enduring the shock. A number of patients had made permanent recoveries under this method of treatment. Of course, general treatment afterwards was of the utmost importance. Expectant treatment as a rule did not stop the progress of the disease.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Soot and its Derivatives.

MANCHESTER is sending an extensive and varied contribution to the Franco-British Exhibition. Engineering, industrial chemistry, textile work, sanitary and building engineering, photography and printing, commercial method, dyeing in cotton and wool, and many other exhibits illustrative of the extent to which physical science has become the handmaid of commerce will be displayed on the stalls. There will also be some exquisite examples of binding and illuminating, and in close proximity to these indications of refinement "some deadly demonstrations of the wickedness of Manchester's atmosphere," in the form of products obtained by Manchester chemists from "native soot," including among other things caustic soda, phenolic compounds, calcium sulphate, hydrochlorides, oils, ammonium sulphate, pitch, and various hydrocarbons. This imperfect list will suffice to show some of the difficulties which manufacturers and dealers in delicate fabrics have to contend with in order that they may show their customers the goods which they require unsoiled and unblemished. It is no doubt a triumph to achieve success in spite of difficulties, one of which is "the vilest of climates," as that of Manchester is often called, although the natural climate, while rather damp, does not deserve the epithet vile. The landscape would be fairly pleasing if only man had not poisoned the air and made it filthy with the noxious products of imperfectly consumed coal. To remedy this state of things, which renders a great part of Lancashire and Cheshire black and dirty, where the flowers, still able to show how beautiful they ought to be, blacken the hand that gathers them and the country side is robbed of most of its presenting in all 10,000 feet of heating surface. Low-pressure steam circulates within the tubes. To draw the air through the filters and heating batteries and then to propel it forward to all parts of the hotel there are two rotating fans each 120 inches in diameter, driven by two 20 b.h.p. electric motors. The temperature of the air is generally raised to 62° F. In this manner 6,000,000 cubic feet of air are filtered, washed, warmed, and propelled slowly forward in the course of an hour. The total weight of the air treated and moved onwards in an hour is set down at 203 tons. Having thus obtained a sufficient quantity of air and greatly improved its quality by filtering and washing we now come to the greatest difficulty, that of distributing it throughout the building. For this purpose the *plenum* system has been adopted, so far at least as the corridors, the 300 bedrooms, and the 200 or so small apartments are concerned. The air being pumped into the passages there is a greater air pressure than outside. Over every door there is an inlet, often an invisible inlet, so that the air which is under pressure in the passage finds relief by penetrating the rooms that give on to the passage. Once in the room it makes its way to the chimney which constitutes a natural outlet. There are windows but these should not be opened as they would let in the unfiltered and dirt-laden atmosphere of Manchester. The windows are only intended to let in light. The fireplaces are ornamental air outlets and as this air is already warmed there is rarely need to light a fire. The pressure of air in such large corridors is, of course, only slight; consequently it enters and traverses the bed and other rooms so gently as to be imperceptible. But the opening of a window would play havoc with the system, and it will take some time before the public learn that there is nothing more fatal and destructive of scientific ventilation than the promiscuous opening of windows and even of doors.

In all the public rooms, the kitchens, the Turkish bath, and lavatories, there are extraction or exhaust shafts as well as the inlets, so the air is drawn out as well as pumped in. The main extraction shafts abut on the roof and discharge from the north-west tower at 106 feet above the street. It must not be thought that air can be pumped in and drawn out of a room without causing draughts and complaints. For instance, in the octagon court there is a gallery with a glass dome very similar to those of the great dining saloons on the *Mauretania* and *Lusitania*. As a consequence the air became cool when it reached the glass dome and then fell on the heads of the people below. Therefore, hot steam tubes had to be placed all round the dome to warm the air again as it descended. The inlets are generally in the walls about 8 feet above the ground where there are air exhaust on one side and air inlet on the other; anyone sitting between the two is liable to feel a draught. Therefore a louvre arrangement had to be placed inside the grate of the inlets to be worked from the outside so that the air might be deflected upwards more or less and according to the circumstances. Then as there are four and a quarter miles of air trunks subsidiary heating batteries have had to be introduced in these shafts to compensate the cooling of the air while travelling such great distances. Again, in some places the extract aperture was too near the inlet, so the air made a short circuit and left the greater part of the room unventilated. Several alterations were necessary. An immense improvement has been effected but perfection has not been reached and there is constant need of personal and technical supervision. The power of wealth, the love of luxury, and the competition between those who cater for the comfort of those who can afford to pay a high price have helped to bring about these great improvements. The servants, the attendants, and the crews of the ships have also shared in these benefits. But need the advantage stop there? If it pays to ventilate scientifically luxurious ships and hotels would it not also pay to ventilate other places where good air is perhaps even more necessary? Many trades and industries and sweating dens are fatally unwholesome for want of proper ventilation. Could not the experience acquired in providing washed, filtered, warmed, and sufficient air to the wealthy be utilised in devising methods applicable to tenement dwellings and workshops where the poor live and toil?

A MEETING of the British Balneological and Climatological Society will be held at Harrogate to-day, Saturday, May 16th. The society will be accorded a civic reception and will visit several places of interest in the neighbourhood.

THE FIRST INTERNATIONAL CONGRESS ON LARYNGOLOGY AND RHINOLOGY.

(FROM OUR VIENNA CORRESPONDENT.)

THE First International Congress on Laryngology and Rhinology was held in Vienna from April 21st to 25th, and its success may be judged from the fact that a resolution was passed at one of the later sittings recommending that this eminently useful congress should have a permanent organisation with general meetings every four or five years. The number of ordinary members was 467, including 33 from England and Ireland, 28 from the United States of America, three from South America, and two from Japan. Representatives of nearly all the European countries were present and the number of papers read before the Congress was 86. Many papers, however, especially those by Austrian authors, which were left for the last day, were only mentioned at the meeting but will appear in the Transactions *in extenso*. As reported in a previous issue of THE LANCET, an element of sadness was introduced by the death of Professor von Schrötter, the honorary president, who died with tragic suddenness only 12 hours after he had in a brilliant speech commemorated the jubilee of Türck and Czermak. It was a great shock to the members of the Congress when Professor CHIARI, at the commencement of the proceedings on April 22nd announced the death of the famous physician. A committee was at once appointed, Sir Felix Semon being the English representative thereon, to render due honours to the deceased and to attend the funeral.

It must be remembered that in addition to the reading of papers the congress was organised with the further object of doing honour to the memory of Professor Türck and Professor Czermak, both of Vienna, who 50 years ago began to make use of the laryngeal mirror for clinical purposes. The discovery of an instrument of this kind by Manuel Garcia, the famous teacher of singing, was not at that time recognised, and its value was not known until the two Vienna physicians took the matter in hand. Since then, thanks to them and to Professor von Schrötter, laryngology and later rhinology have grown until they have become extensive departments of practical medicine. As a souvenir of the occasion each member of the congress was presented with a medal bearing the portraits of the two laryngologists whose jubilee was thus celebrated, and in the exhibition, to be mentioned later, several objects referring to them were shown.

The congress was formally opened by His Excellency the Governor of Lower Austria who welcomed the members in the name of the Protector, the heir presumptive to the Austrian throne, and assured them that the Government took the greatest interest in the proceedings. The President, Professor Chiari, in an eloquent speech delivered in German, French, and English, then dwelt on the attention paid by the learned societies to the congress and on his suggestion telegrams of respectful greeting were sent to the Emperor and to the Protector. The representatives of the different countries and governments were then called upon to deliver their speeches, which were for the most part very short. Professor VON SCHRÖTTER in the next place delivered a brilliant oration on Professor Türck and Professor Czermak, some relatives of both of whom (sons and grandchildren) were present.

On April 22nd, when Professor von Schrötter's sudden death became known, the Congress adjourned for an hour in token of mourning. Its proceedings were resumed with the reading of a conjoint report by Professor FRÄNKEL (Berlin) and Professor LERMOYEZ (Paris) on

Laryngology and Rhinology and General Medicine: Teaching of, and Examination on, these Subjects in Different Countries.

The professors described the great progress which had been made in medicine by the aid of the laryngoscope. Professor Fränkel emphasised the necessity of diminishing specialism, and at the same time expressed the opinion that the otologist should not suppress the laryngologist. Professor Lermoyez recommended that the medical curriculum of the universities should include an examination in laryngology.

Dr. ONODI (Budapest) read a paper on

The Correlation of Nasal Diseases with Ocular Diseases.

He said that the close anatomical relations which existed between the orbit, the chiasma, and the accessory sinuses of the nose explained the possibility of "nasal blindness."

approved the plans submitted by the Royal College of Surgeons for an important addition to its premises. The extension is to be made to Hill Square and will supply additional accommodation for the museum and provide laboratory and workshop accommodation as well. Various structural alterations have also been approved.

New Medical Superintendent of Larbert Asylum.

Owing to the selection of Dr. G. M. Robertson to succeed Dr. T. S. Clouston at the Edinburgh Royal Asylum, the Stirling district board of lunacy has had to appoint a new superintendent to take Dr. Robertson's place. It has selected Mr. Robert Brown Campbell, M.B., C.M., for the post. Dr. Campbell is a graduate of Edinburgh of 1895 and is at present superintendent of the Inverness District Asylum. He has been assistant in the Crichton Royal Asylum, in the Montrose Royal Asylum, and in the asylum of which he has till now been superintendent.

Glasgow Town Council and Ruchill Hospital.

Another stage in the Ruchill Hospital dispute was reached at the meeting of the Glasgow town council last week. It will be recollected that the troubles were primarily due to overcrowding and understaffing, that the resident physicians, after drawing the attention of the hospitals subcommittee to the existing state of affairs, were dismissed, and that finally a commission appointed by the Local Government Board inquired into the state of matters and found the allegations of the resident physicians to be to a great extent well founded. The next step after the presentation of this finding was that the corporation remitted it to the hospitals subcommittee to consider and report. This proceeding evoked much criticism at the time as the hospitals subcommittee was not considered to have enhanced its reputation by the way in which the whole matter had been handled from the first and many would have preferred to have a special committee appointed. After a series of meetings the hospitals subcommittee, in dealing with the four points at issue, drew up in each case a majority and minority report, and these were presented to the town council last week for approval. As regards the medical officer of health the majority, which numbered ten members, recommended that the statement and explanation of the medical officer of health should be regarded as satisfactory, and stated that he was not implicated in the questions of understaffing and friction. The minority of four, on the other hand, considered that it was his duty carefully to examine the daily returns and to call the attention of the committee to the excessive overcrowding of particular wards. The majority report on this point was accepted by six votes at the corporation meeting. As regards the physician-superintendent, in the majority report it was recommended with the greatest regret that the physician-superintendent should be asked to tender his resignation. The minority recommended that the physician-superintendent should be put on probation for six months. By a majority of three the town council accepted the minority report. In regard to the matron, a majority of the committee recommended that, subject to disapproval of the tone and terms of her "address" to the sisters and staff of nurses, she should be retained. The minority recommended that the matron should be censured for her general want of tact with the nursing staff. By a large majority the majority report was passed by the town council. Finally, in dealing with the dismissed resident physicians, the majority report stated that, without casting any imputation whatever upon their personal character or professional ability, and with the full knowledge that their complaint to the Local Government Board had been largely substantiated by the finding of the commissioners, the committee regretted that they could not recommend their reinstatement. The minority report advised that the dismissed resident physicians should be reinstated subject to their agreeing loyally to obey the regulations imposed upon them by the corporation. By a majority the corporation decided not to reinstate the dismissed resident physicians. The sederunt of the town council lasted continuously for 11 hours and the debate was probably the stormiest on record. Although such has been the finding of the town council the general feeling of the community seems to be that the resident physicians have been hardly treated and that an error in judgment was made by the corporation in remitting the report of the commissioners to be dealt with by the hospitals committee, whose conduct also formed matter for investigation by the commission.

Outbreak of Small-pox in Arbroath.

During the past few weeks there has been a rather serious epidemic of small-pox in Arbroath. Ten cases in all have occurred since the beginning of the outbreak.

Proposed Extension of Aberdeen City Hospital.

The public health committee of the Aberdeen town council in a report on a recent visit to the city hospital, when the wards and nursing staff accommodation were inspected, recommends that a remit should be made to it to report as to the propriety and cost of extending the building so as to meet the growing requirements of the institution.

Ross and Cromarty: Annual Health Report.

Dr. W. Bruce, medical officer of health of Ross and Cromarty, has just issued his annual public health report for that district for the past year. The birth-rate of 21·3 is less than that of last year and shows a very decided fall from that of five years ago. The death-rate was 15·8. Of the deaths, those from infectious diseases amounted to 150 and of these five-sixths were due to tuberculous disease. It is estimated that at present there are 250 cases of consumption in the county. In Lewis the disease is specially prevalent. There were during the year no fewer than 31 deaths from violence, mostly drowning. The infantile death-rate was 92 per 1000 in the Black Isle and 89·8 in Lewis.

Forfar County: Appointment of Medical Officer of Health.

The Forfar County Council met at Forfar on May 7th for the purpose of electing a medical officer of health for the county in succession to Dr. T. F. Dewar who has been appointed to the medical officership of Fifeshire. The Earl of Camperdown presided. There were 11 applications for the vacancy but only two of these were nominated, Dr. Norman J. Sinclair (Brechin) and Dr. A. E. Kidd (Carnoustie). Dr. Sinclair was appointed by a large majority. A letter was read from the Local Government Board stating that it was prepared to allow the new officer to engage in consulting practice. Dr. Sinclair is a native of Aberdeen and a graduate of the University.

Kincardine County Council: Annual Health Report.

The county council of Kincardine met on May 7th, when Dr. W. A. Macnaughton, the medical officer of health, submitted his annual report. This showed that for the year the birth-rate was 23·2 per 1000 and the death-rate 12·9 per 1000. The infantile mortality was 66·5 per 1000. The deaths from tuberculous disease numbered 40, or 1·4 per 1000, the highest recorded for 17 years. Cancer and malignant disease caused four deaths, as against 21 in 1906. One case of cerebro-spinal meningitis was notified and the disease had a fatal result. The death-rate for Stonehaven was 12·9 per 1000, the lowest rate which the medical officer had recorded.

May 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The New University for Ireland.

THERE were published last week the names of the members of the Senate of the new Irish University; those of the members of the governing bodies of two of its constituent colleges now follow. The schedule of the Dublin College, issued on May 9th, contains the names of the members of the first governing body. They are: Denis Joseph Coffey, M.A., M.B., Ch.B. (President); Stephen James Brown; Arthur W. Conway, M.A.; M. F. Cox, M.D.; Rev. William Delany, S.J., LL.D.; Alexander Dempsey, M.D.; Robert Donovan, B.A.; Charles F. Doyle, M.A., K.C.; Miss Mary T. Hayden, M.A.; Hugh P. Lane; J. S. McArdle, M.Ch.; J. A. McClelland, M.A., D.Sc.; John McNeill, B.A.; Henry C. McWeeney, M.A.; William Magennis, M.A.; Right Rev. Monsignor Mannix, D.D.; Joseph Mooney; Sir Christopher Nixon, Bart., M.D.; Charles A. O'Connor, M.A., K.C., First Serjeant-at-Law; Miss Agnes O'Farrelly, M.A.; Patrick J. O'Neill; *Alderman Gerald O'Reilly (the Right Hon. the Lord Mayor of Dublin); Right Hon. Christopher Palles, LL.D., Lord Chief Baron; Patrick Semple, M.A.; George Sigerson, M.D.; and Laurence Ambrose Waldron, M.P. A few others will be proposed. In the case of persons whose names are marked with asterisks it will be proposed that the nomination shall have effect only while they hold the offices a description of which is attached to their names, and that if charm, is a task compared to which the cleansing of the Augean stables was a trifle. No doubt there are appliances which with care and skilful management are effective as to manufacturing smoke and so, perhaps more doubtfully, with domestic fireplaces, but the evil of imperfect combustion has been allowed to grow until it is almost too monstrous to be grappled with. Domestic grates are more difficult to deal with than manufacturing furnaces but the attempt must be made and sometimes, in the case of the well-to-do, it is done with success, but the poor householder is not equal to these things. The injury to commerce and the amenities of life, to say nothing as to the lowering of the vitality of the people, would surely justify some combination of bounties and penalties to aid in attaining to a higher standard of purity in the air which we breathe.

The Port Sanitary Authority and Bad Foodstuffs.

Mr. W. F. Dearden's last official report on the port of Manchester shows that in the month ending April 25th last 225 vessels were inspected and on 90 of them insanitery conditions were found. A great amount of what are somewhat inelegantly called "foodstuffs"—a term indicating an alien origin—now comes up the Ship Canal and requires constant watching. During the month the amount condemned reached a total of 22 tons 4 hundredweights, included in which were 212 bags of onions, which no doubt were in a highly odoriferous condition. So that, accompanying the great benefits which the Canal has brought with it to Manchester, there is the drawback that it renders the town more vulnerable as regards imported disease.

Cotton Districts' Convalescent Fund.

But for the existence of the Cotton Districts' Convalescent Fund the dark days of the cotton famine would be almost forgotten in Lancashire and Cheshire, where the cloud rested so long and heavily. This fund, however, continues to spread abroad its benefits and at the same time to remind those who remember them of the hard times of long ago. During the three months ending March 31st 492 patients were sent to the convalescent hospitals at Southport, Buxton, and Cheadle at a cost of £1134 1*s.* 6*d.*, as against £1161 6*s.* 11*d.* in the corresponding period of 1907, when 477 patients were sent. They were sent from, it may be said, every manufacturing town in Lancashire and Cheshire. Manchester heads the list with 845, Salford sent 216, Bolton 164, and so on till we come to Tyldesley, which contributed 2. The total for 1907 was 1895.

May 12th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Visit of the King and Queen.

To the great gratification of all in Leeds, and notably, of course, to those who are interested in the welfare of the University, the Marquis of Ripon, as Chancellor, has been able to announce that the King and Queen have graciously consented to visit the city to open the new departments of the University. The building operations are now all but completed and comprise an extension of the main building, which will provide adequate accommodation for the arts classes and for the department of botany. A new department for mining and metallurgy has been in operation some time but has not been formally opened. A new wing has been provided for mechanical engineering and a separate block for electrical engineering. Some minor additions of a more or less temporary character are also included in recent efforts. Though it is exactly 50 years since the reigning sovereign has visited Leeds, for Queen Victoria opened the town hall in the year 1858, it must be mentioned that in 1885 King Edward (while Prince of Wales) opened the new buildings of the Yorkshire College and that the present Prince of Wales (while Duke of York) paid a visit to Leeds in 1894 to open the new medical school and the additions to the buildings in College-road.

The University: Changes in the Staff of Demonstrators.

Mr. S. G. Scott, M.A., M.B. Oxon., who has been demonstrator in pathology and bacteriology since 1903, has resigned his position on his appointment as demonstrator of histology in the physiological department of the University of Oxford. During Dr. Scott's residence in Leeds he has acted with much acceptance as honorary secretary of the Pathological Club which was initiated by Dr. E. F. Trevelyan during his tenure of office as professor of pathology. The members of this club, desiring to show their high appreciation of Dr. Scott's work, decided to entertain him to dinner on the occasion of his leaving Leeds. A desire was expressed by some of Dr. Scott's non-medical colleagues on the professorial and demonstrator staff to associate themselves with the members of the club in bidding good-bye to one who has been a favourite with all. Professor de Burgh Birch was in the chair, and among the others who were present were Dr. Bodington, the Vice-Chancellor; Professor A. S. F. Grünbaum, the Dean of the Faculty of Medicine, and many others. Consequent on the resignation of Dr. R. Veitch Clark, who has been appointed assistant medical officer of health to the city, the post of demonstrator of physiology has been filled by the election of Mr. A. Hunter, M.A., B.Sc., Ch.B. Edin. Mr. Hunter has acted as demonstrator in the physiological department of the University of Edinburgh under Professor E. A. Schäfer and during the last two years has held a Carnegie fellowship and has been working at Berlin and Heidelberg on the biochemistry of the proteins.

May 12th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The General Council of the University of Edinburgh.

THE statutory half-yearly meeting of this body was held on May 7th, Principal Sir William Turner occupying the chair. After the minutes of the previous meeting had been adopted the business committee submitted its report. At the outset reference was made to the deaths of Sir Patrick Heron Watson, Professor Thomas Annandale, and Professor A. H. Charteris. Detailed reference was made to Sir P. H. Watson's valuable services as a member of the general council of the University and of the active interest which he took in university matters. The subjects of greatest interest which were dealt with in the report were those of autonomy and the relations of the Universities to the Education (Scotland) Bill, 1908, at present before Parliament. With regard to the question of autonomy, two conferences had been held between representatives of the four Scottish Universities, and these, it was stated, had been useful, and the council decided that they should be continued. As bearing upon this question two memoranda were presented to the council, one of which had been drawn up by Mr. Buchan and submitted to the conference of representatives of the general councils in regard to autonomy. This memorandum pointed out the present position of the Universities and the need of greater freedom. A second memorandum also submitted to the conference was written by Principal A. P. Laurie of the Heriot-Watt College and dealt with the question from other points. Both memoranda were important contributions to the urgent necessity for granting without delay a measure of autonomy to the Scottish Universities at least equal to that enjoyed by the English Universities. At the meeting Sir John Batty Tuke expressed anxiety as to the effect that the Education Bill before Parliament might have upon the Universities—he was afraid that the Scottish Education Department might have too autocratic powers. The report in referring to the Carnegie Trust showed that the Universities during the past five years had received a sum of £200,000 for buildings, for teaching, and for library purposes. An interim scheme of distribution for the period from Jan. 1st to Sept. 30th, 1908, shows a total of £31,228, of which £8750 go to the University of Edinburgh. For the second quinquennial distribution from October, 1908, to September, 1913, the amount reaches £194,000, of which £52,500 go to the University of Edinburgh and £5500 to the Edinburgh Extra mural School. Altogether the outlook for the Scottish Universities is brighter. The number of students is maintained; the Carnegie Trust money has provided much needed help; there is a friendly understanding arising out of the inter-University conferences; and there is the assurance that ere long the Universities will be granted such autonomy as will enable them to develop rapidly along the lines which are so plainly indicated by modern developments in science and in education generally.

Extension of the Premises of the Royal College of Surgeons of Edinburgh.

The Dean of Guild Court of the city of Edinburgh has approved the plans submitted by the Royal College of Surgeons for an important addition to its premises. The extension is to be made to Hill Square and will supply additional accommodation for the museum and provide laboratory and workshop accommodation as well. Various structural alterations have also been approved.

New Medical Superintendent of Larbert Asylum.

Owing to the selection of Dr. G. M. Robertson to succeed Dr. T. S. Clouston at the Edinburgh Royal Asylum, the Stirling district board of lunacy has had to appoint a new superintendent to take Dr. Robertson's place. It has selected Mr. Robert Brown Campbell, M.B., C.M., for the post. Dr. Campbell is a graduate of Edinburgh of 1895 and is at present superintendent of the Inverness District Asylum. He has been assistant in the Crichton Royal Asylum, in the Montrose Royal Asylum, and in the asylum of which he has till now been superintendent.

Glasgow Town Council and Ruchill Hospital.

Another stage in the Ruchill Hospital dispute was reached at the meeting of the Glasgow town council last week. It will be recollected that the troubles were primarily due to overcrowding and understaffing, that the resident physicians, after drawing the attention of the hospitals subcommittee to the existing state of affairs, were dismissed, and that finally a commission appointed by the Local Government Board inquired into the state of matters and found the allegations of the resident physicians to be to a great extent well founded. The next step after the presentation of this finding was that the corporation remitted it to the hospitals subcommittee to consider and report. This proceeding evoked much criticism at the time as the hospitals subcommittee was not considered to have enhanced its reputation by the way in which the whole matter had been handled from the first and many would have preferred to have a special committee appointed. After a series of meetings the hospitals subcommittee, in dealing with the four points at issue, drew up in each case a majority and minority report, and these were presented to the town council last week for approval. As regards the medical officer of health the majority, which numbered ten members, recommended that the statement and explanation of the medical officer of health should be regarded as satisfactory, and stated that he was not implicated in the questions of understaffing and friction. The minority of four, on the other hand, considered that it was his duty carefully to examine the daily returns and to call the attention of the committee to the excessive overcrowding of particular wards. The majority report on this point was accepted by six votes at the corporation meeting. As regards the physician-superintendent, in the majority report it was recommended with the greatest regret that the physician-superintendent should be asked to tender his resignation. The minority recommended that the physician-superintendent should be put on probation for six months. By a majority of three the town council accepted the minority report. In regard to the matron, a majority of the committee recommended that, subject to disapproval of the tone and terms of her "address" to the sisters and staff of nurses, she should be retained. The minority recommended that the matron should be censured for her general want of tact with the nursing staff. By a large majority the majority report was passed by the town council. Finally, in dealing with the dismissed resident physicians, the majority report stated that, without casting any imputation whatever upon their personal character or professional ability, and with the full knowledge that their complaint to the Local Government Board had been largely substantiated by the finding of the commissioners, the committee regretted that they could not recommend their reinstatement. The minority report advised that the dismissed resident physicians should be reinstated subject to their agreeing loyally to obey the regulations imposed upon them by the corporation. By a majority the corporation decided not to reinstate the dismissed resident physicians. The sederunt of the town council lasted continuously for 11 hours and the debate was probably the stormiest on record. Although such has been the finding of the town council the general feeling of the community seems to be that the resident physicians have been hardly treated and that an error in judgment was made by the corporation in remitting the report of the commissioners to be dealt with by the hospitals committee, whose conduct also formed matter for investigation by the commission.

Outbreak of Small-pox in Arbroath.

During the past few weeks there has been a rather serious epidemic of small-pox in Arbroath. Ten cases in all have occurred since the beginning of the outbreak.

Proposed Extension of Aberdeen City Hospital.

The public health committee of the Aberdeen town council in a report on a recent visit to the city hospital, when the wards and nursing staff accommodation were inspected, recommends that a remit should be made to it to report as to the propriety and cost of extending the building so as to meet the growing requirements of the institution.

Ross and Cromarty: Annual Health Report.

Dr. W. Bruce, medical officer of health of Ross and Cromarty, has just issued his annual public health report for that district for the past year. The birth-rate of 21·3 is less than that of last year and shows a very decided fall from that of five years ago. The death-rate was 15·8. Of the deaths, those from infectious diseases amounted to 150 and of these five-sixths were due to tuberculous disease. It is estimated that at present there are 250 cases of consumption in the county. In Lewis the disease is specially prevalent. There were during the year no fewer than 31 deaths from violence, mostly drowning. The infantile death-rate was 92 per 1000 in the Black Isle and 89·8 in Lewis.

Forfar County: Appointment of Medical Officer of Health.

The Forfar County Council met at Forfar on May 7th for the purpose of electing a medical officer of health for the county in succession to Dr. T. F. Dewar who has been appointed to the medical officership of Fifeshire. The Earl of Camperdown presided. There were 11 applications for the vacancy but only two of these were nominated, Dr. Norman J. Sinclair (Brechin) and Dr. A. E. Kidd (Carnoustie). Dr. Sinclair was appointed by a large majority. A letter was read from the Local Government Board stating that it was prepared to allow the new officer to engage in consulting practice. Dr. Sinclair is a native of Aberdeen and a graduate of the University.

Kincardine County Council: Annual Health Report.

The county council of Kincardine met on May 7th, when Dr. W. A. Macnaughton, the medical officer of health, submitted his annual report. This showed that for the year the birth-rate was 23·2 per 1000 and the death-rate 12·9 per 1000. The infantile mortality was 66·5 per 1000. The deaths from tuberculous disease numbered 40, or 1·4 per 1000, the highest recorded for 17 years. Cancer and malignant disease caused four deaths, as against 21 in 1906. One case of cerebro-spinal meningitis was notified and the disease had a fatal result. The death-rate for Stonehaven was 12·9 per 1000, the lowest rate which the medical officer had recorded.

May 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The New University for Ireland.

THERE were published last week the names of the members of the Senate of the new Irish University; those of the members of the governing bodies of two of its constituent colleges now follow. The schedule of the Dublin College, issued on May 9th, contains the names of the members of the first governing body. They are: Denis Joseph Coffey, M.A., M.B., Ch.B. (President); Stephen James Brown; Arthur W. Conway, M.A.; M. F. Cox, M.D.; Rev. William Delany, S.J., LL.D.; Alexander Dempsey, M.D.; Robert Donovan, B.A.; Charles F. Doyle, M.A., K.C.; Miss Mary T. Hayden, M.A.; Hugh P. Lane; J. S. McArdle, M.Ch.; J. A. McClelland, M.A., D.Sc.; John McNeill, B.A.; Henry C. McWeeney, M.A.; William Magennis, M.A.; Right Rev. Monsignor Mannix, D.D.; Joseph Mooney; Sir Christopher Nixon, Bart., M.D.; Charles A. O'Connor, M.A., K.C., First Serjeant-at-Law; Miss Agnes O'Farrelly, M.A.; Patrick J. O'Neill; *Alderman Gerald O'Reilly (the Right Hon. the Lord Mayor of Dublin); Right Hon. Christopher Palles, LL.D., Lord Chief Baron; Patrick Semple, M.A.; George Sigerson, M.D.; and Laurence Ambrose Waldron, M.P. A few others will be proposed. In the case of persons whose names are marked with asterisks it will be proposed that the nomination shall have effect only while they hold the offices a description of which is attached to their names, and that if any such person ceases to hold the office a vacancy will occur to be filled by a further nomination. The names of the first governing body of the Galway College are as follows: Alexander Anderson, M.A., LL.D., President; P. J. Boland, B.A.; Rev. J. C. Clarke, B.A., D.D.; Nicholas W. Colahan, M.D., M.Ch. (Professor); Rev. E. A. Dalton, M.R.I.A.; Very Rev. Canon Daly, D.D.; William Daly, J.P., D.L.; Very Rev. Peter Dooley, P.P.; Joseph Glynn, B.A.; Stephen Gwynn, M.P.; His Grace the Most Rev. John Healy, D.D; John Patrick Henry, M.A., M.D., Ch.B.; Very Rev. Michael Higgins, D.D.; Lord Killanin, D.L.; Richard J. Kinkead, B.A., M.D. (Professor); the Most Rev. J. MacCormack, D.D.; Martin M'Donogh; Rev. T. O. Kelly, B.D.; Right Rev. James O'Sullivan, D.D.; Joseph P. Pye, M.D. (Professor); Alfred Senier, Ph.D. (Professor); Valentino Steinberger, M.A. (Professor); Edward Townsend, M.A., D.Sc. (Professor); and Wilbraham F. Trench, M.A. (Professor). Another person or persons will be proposed. The conspicuous representation of the medical profession on the governing body of the Dublin College augurs well for the position which is to be taken by its Faculty of Medicine and its influence in the University's policy. Dublin is able to furnish an exceptionally strong list of medical men well qualified to hold office in this capacity. The medical school which in the past produced Stokes and Graves can in the present generation boast of the scholarly and scientific attainments of Cox and Sigerson; while the brilliant public as well as professional career of Sir Christopher Nixon brings to mind that of Sir Dominic Corrigan, since whose day he has been the first Irish medical man to receive the honour of a baronetcy.

Irish Medical Association: New President.

The Irish Medical Association has just elected Sir William J. Smyly as its new president. If popularity be the true test of merit no more worthy choice has ever been made in the selection of a chairman for that body. But the whole professional record of Sir William Smyly is one of high-class work as a practitioner, as an organiser, as a teacher, and as a contributor to the scientific literature of his profession, as well as an exemplary leader and guide of his professional brethren in the very cleanest pathways and along the lines of the best and highest professional traditions. In all these respects he is a thoroughly worthy successor of Mr. J. S. McArdle whose aims and attainments have always been along closely parallel lines of professional advancement, with the most jealous conservation of professional honour, truthfulness, and dignity. And I am glad to see, though others may think proper to criticise the feature with less favour, that social gatherings are from time to time to form one of the specially distinctive features of the *régime*. Our old customs are changing rather too fast as it is and some of us would fain cling to some surviving links of our proverbial national hospitality.

The Election of a Medical Officer by the North Dublin Board of Guardians.

The North Dublin board of guardians recently appointed Mr. C. Casey to the vacant medical officership of No. 2 Dispensary District, an election to which the Local Government Board took objection. This was discussed energetically at a recent meeting of the guardians at which a letter was read from Dr. Thomas Donnelly, who has served them for 24 years, complaining that he had been passed over for the appointment in the face of their own regulations as to promotion by seniority. After one guardian had warmly urged the meeting to defy the Local Government Board and ratify their first election the discussion was postponed. Dr. Donnelly has a brilliant career behind him and the qualifications of M.D., M.A.O. Dub., F.R.C.S. Irel., and D.P.H. It is unlikely in the extreme that a more suitable candidate will apply for the post.

The Workman's Compensation Act.

On May 5th the Recorder of Dublin heard a claim under this Act by Catherine Doyle against the governors of Steeven's Hospital. She had injured her thumb when working in their employment and "blood poisoning" had ensued which necessitated a subsequent operation. She alleged that this was due to neglect on the part of the hospital authorities, which was denied by Mr. Good on their behalf. The applicant swore that she had complained to the matron of the hospital at the time of the accident which that lady denied. The matron heard subsequently that the applicant had been pricked by a fish-bone. His lordship, in commenting on the case, said that the matron had given very candid and proper evidence and that it was a pity that information of the accident had not been given earlier to the authorities of the hospital, but that it was quite plain that it had occurred. A great deal of trouble had been unnecessarily thrown upon the authorities of this hospital, which subsisted on charity and was constantly relieving the poor, by the want of proper notice. He was compelled by statute to grant costs, which he would fix at £3 3*s.*, and would award the applicant a small amount—£2 10*s.*

The Sanitation of Ballina.

The western town (or village) of Ballina has for some time been establishing for itself a most malodorous reputation in sanitary matters. On April 20th a meeting of the Ballina board of guardians was held and the medical officer's report contained the following paragraph:—

> Since last report five cases of fever were admitted; remaining 17; no deaths. Such a large number of fever cases with an extra fever nurse entails considerable expense to the ratepayers. If for no other consideration the sanitation of the town and district ought to claim some of your attention.—R. MACAULAY.

No order was made on the report and there appears to have been no discussion on the reading of it. The Ballina council discussed the report on April 21st in association with the sanitary condition of the town. Two reports have lately been submitted to the urban council on the subject: one of these was made by a committee of the council and the other by Sir James Acheson MacCullagh. Not long ago there was a sharp outbreak in Ballina of an epidemic of typhus fever. Reports were then prepared regarding the appalling state of the sanitation of the town and its vicinity. Some superficial cleansing was carried out under the influence of this stimulus; but, too like the methods of the old-time Hibernian traditions, the local arrangements were soon allowed to drop back into their old happy-go-lucky methods, with their dirt and apathy and passive expectancy. Ever since the place has been infested with fevers of various kinds: typhus fever, diphtheria, scarlet fever, &c. There is surely need of some increase of sanitary activity.

Ulster Medical Society.

An adjourned meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on May 7th, to discuss a series of motions framed by the committee appointed to consider the question of hospital abuse. Owing to the very small attendance it was decided to adjourn the discussion of the motions until next session.

Londonderry Eye, Ear, and Throat Hospital.

At the annual meeting of the friends of this hospital, held on May 6th, it was reported that during the past year there were 1293 dental extern patients and 1321 eye, ear, nose and throat cases. There were 112 intern cases. Financially the total income for the year was £336 2*s.* 2*d.*, as compared with £385 0*s.* 8*d.* for the previous year, while the expenditure had increased from £263 5*s.* 1*d.* to £347 8*s.* 8*d.*

Medical Benevolent Society of Ireland.

At the annual meeting of the Belfast and co. Antrim Branch of the Royal Medical Benevolent Fund Society of Ireland, held in the Medical Institute, Belfast (Professor J. A. Lindsay, the President, being in the chair), on May 8th, it was reported that the whole amount to the credit of the branch was £155 14*s.* 6*d.*, being 2 guineas less than last year, as follows: £99 5*s.* subscribed by 146 medical practitioners in Belfast, £26 7*s.* 6*d.* forwarded by 39 country practitioners, besides £15 per Dr. J. C. Martin of Portrush, collected at the annual dinner of the Irish Medical Association; £2 11*s.* 6*d.* from the Ulster Medical Society, and 6*s.* interest on deposits. 14 sympathisers outside the medical profession subscribed £12 4*s.* 6*d.* Professor J. Symington was elected president for the ensuing year.

May 12th

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Relapsing Fever in Tonkin.

A SEVERE epidemic of relapsing fever has broken out at Cam-Ly and an enormous loss of life has occurred among the Annamites. In one village, for instance, which formerly contained over 200 inhabitants, there are now barely 80, and with the exception of two or three all these deaths are due to relapsing fever. The authorities of Phu-Lang-Thuong have taken active steps for preventing the spread of the disease which is due in great measure to the concealment of cases by the headmen of the infected villages. A hygienic commission is to be (*doit être*) established at Phu-Lang-Thuong immediately charged with the duty of imposing most rigorous hygienic measures upon the inhabitants.

Cacodylate of Sodium and Arrhenal in the Treatment of Corneal Ulceration.

Madame Bonsignorio read a paper at the April meeting of the Therapeutical Society upon the results which she has obtained during the last two years in the treatment of all kinds of corneal ulceration and of ulcerative blepharitis with cacodylate of sodium. She uses this salt either in a 3 per cent. solution or in a 2 per cent. ointment, and arrhenal as a 3 per cent. solution. Under this treatment the ulcerations heal up rapidly. In the treatment of ulcerative blepharitis care must be taken to remove the crusts by bathing with warm water before the application of the cacodylate ointment. The edges of the eyelids are smeared every evening with this ointment for eight days, and then for eight other evenings at an interval of every other day. The application of the ointment brings about a slight smarting which only lasts for two or three minutes. In the case of corneal ulceration a small quantity of the ointment is placed in the eye when the patient goes to bed.

Reforms in Medical Education.

Since the beginning of 1907 a committee appointed by the Ministry of Public Instruction has been sitting to consider what modifications in medical studies it may be desirable to effect. Last month the committee issued a report consisting of a series of resolutions, of which the following are the chief. The future medical student should have an education which is intellectual, literary, and philosophical. The preliminary scientific examination should be specially directed towards the future application of its subjects to medical study. The committee insists upon the retention of all the subjects of instruction which have been laid down since 1899, but it is of opinion that there should be added to these as compulsory subjects instruction in practical midwifery, dermatology, venereal diseases, diseases of the urinary organs, nervous and mental diseases, medical and surgical diseases of children, ophthalmology, and oto-rhino-laryngology. Gynæcology will not be an obligatory subject. The committee also considers that instruction should be given in stomatology. The committee rejected the proposal of a sub-committee that instruction should be given in social medicine, but proposed in its place that instruction should be given in jurisprudence (*législation*) and in deontology. The duration of the curriculum is five years, which term, however, does not include the first year. The committee is of opinion that medical students should not be allowed to reckon their class attendance during the time of their military service. No retrospective or cumulative class attendance will be allowed except on proof of knowledge as shown by examination (*stage*) and practical work. The committee is of opinion that a curriculum of professional instruction should be definitely formulated. There should also be opportunities for obtaining advanced instruction both for students desirous of increasing their knowledge and for practitioners wishing to keep themselves up to date. Attendance at such course would be optional. Professional instruction is given at the Faculty so far as theory goes, and this system ought to be continued. But the nature of the teaching ought to be modified by the addition of technical instruction in laboratories provided with proper teachers and appliances, just as in hospitals clinical instruction is given in the wards. The committee passed a resolution calling upon the Government to find ways and means for providing the Faculty and schools with material for practical teaching, which is indispensable to the study of medicine, in order to bring about if possible appropriate Government grants and in every case the coöperation of the various Government departments concerned. The committee further demands that in examinations marking by ballot should be done away with. The marks should only be given after due deliberation. The following marks are to be given:—*Extrêmement satisfait, Très satisfait, Bien satisfait, Satisfait, Mal, Nul.* The marks *Mal* and *Nul* mean rejection. In clinical examinations *Mal* means that the student is to be referred for three months and *Nul* for six months. If a student is referred for a second time he is to be referred for six months.

Iodism and Purgatives.

A case reported by M. Ramond to the Hospitals Medical Society on May 1st shows the necessity in some instances of caution in the use of purgatives. The patient was a woman, aged 56 years, who was in the habit of taking purgatives which, as a rule, produced no inconvenience. Ordinarily, too, she was able to take iodides without any symptoms of iodism. But if when under the iodide treatment she also took a purgative she very shortly showed symptoms of acute iodism, such as coryza, headache, and even a scarlatiniform rash accompanied by itching.

May 11th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Post-graduate Lectures in Vienna.

THE Vienna Aerzte-Kammer (Medical Council) has arranged with the professors of the clinics to give a series of post-graduate lectures at very low fees during the months of May and June to all medical men who may wish to attend them without restriction as to numbers. The courses will consist of from four to eight lectures and for graduates of the University of Vienna the fees are only from 2*s.* to 4*s.*, whilst holders of qualifications obtained from other sources pay from 5*s.* to 10*s.* The subjects include diphtheria, disorders of metabolism, hæmatology, the serum reaction in syphilis, and diseases of children. If the number of applicants should be large enough to encourage a repetition of this experiment the intention is to have such classes every three or four months. The fees paid will be handed over to the Society for the Relief of the Widows and Orphans of Medical Men.

The Dangerous Stage of Enlarged Prostate.

Dr. Götzl, in a paper read before the Society of German Practitioners, summarised the results of an extended series of researches on the dangers of the last stage of prostatic enlargement. He said that it was characterised by ischuria paradoxa, polydipsia, polyuria, and painless distension of the bladder; if the bladder was evacuated too quickly severe hæmorrhage might follow after a few hours. The prognosis was bad if the condition was not relieved soon, as toxæmia and sepsis (or, as the author of the paper called them, urosepsis and urotoxæmia) were liable to ensue. Extreme distension of the bladder was often misinterpreted by the patients who did not give so much attention to it as to disturbances of the alimentary canal, and in this way the medical attendant might be sometimes misled. The mortality has been computed at 45 per cent., proving that a correct diagnosis and immediate interference were required. Infection was often caused by hasty catheterisation, and if the distension of the bladder with the secondary stasis in the kidneys persisted for a long time pressure atrophy of the latter might follow with a fatal result. Dr. Götzl has observed 288 cases of serious consequences of hypertrophy of the prostate. The age of the patient was of little significance, the youngest being 54 years and the oldest 81 years of age. Careful examination was the only means of arriving at a correct diagnosis.

Migraine and X Rays.

In a paper communicated to the Neurological Society by Dr. Schüller and Dr. Hirschl the cause of some attacks of migraine was explained by the presence of definite changes in the bony capsule of the brain. In both of the cases described children were victims to periodical attacks of intense unilateral headache. In one patient, who was a boy, 11 years old, an x-ray photograph showed the characteristic changes of hydrocephalus, and further inquiry resulted in the disclosure that parental syphilis was extremely probable. The other patient, a boy, aged seven years, showed a very marked degree of the impressiones digitatæ, the skull having in some places been rendered as thin as paper by the pressure. He also showed early ossification of the coronary sutures and his attacks were readily explained by constant intracranial high pressure.

Operation for Atresia of the Choanæ.

Dr. Harmer at a recent meeting of the Laryngological Society showed a patient, aged 20 years, whose condition presented several remarkable features. When first brought under observation nine years ago many polypi had to be removed from the left side of the nose, after which complete osseous atresia of the left choana was found and much trouble was required to perforate the bone with a strong probe and to push a drainage-tube through this aperture.

By increasing the thickness of the tubes this aperture was subsequently enlarged, but it closed again when the treatment was discontinued for a year and the whole process had to be repeated until a medium-sized tube could be forced through. Dr. Harmer then chiselled away the bone along the periphery of the aperture until the latter was of the size of a man's thumb. During five months wicks of iodoform gauze of the size of a large hazelnut had to be pushed from behind through the aperture every day until it remained stationary for a few weeks, so that it might be assumed that the tendency to form fresh bone has now been overcome. As a rule, operations for atresia of the choanæ were not very pleasant and the result was not always gratifying to either the surgeon or the patient. The plan of chiselling the bone away was perhaps the best and most efficient one of all those known at present.

The Antagonism of Poisons.

At a recent meeting of the Vienna Gesellschaft der Aerzte Professor Horst-Meyer spoke on the important subject of the antagonistic action of poisons introduced into the organism. He discriminated between an absolutely chemical antagonism and a physiological antagonism and said that the experiment on the animal must show the true nature of these opposing actions. In the chemical group the poison and the antipoison combined to form an indifferent body, whereas in the second group the poison and the antipoison acted upon an organ independently of each other but with opposite results and had no mutual interaction. For instance, atropine paralysed the non-striated muscles and the heart, while pilocarpine stimulated them. In some cases the poison acted on the central nervous system, examples of this kind being afforded by morphine, prussic acid, caffeine, and picrotoxin. Some poisons lowered the temperature of the body, while some raised it. Then there was a third group of poisons which acted upon groups of physiologically antagonistic organs. Thus the sympathetic nerve was antagonistic to some cerebro-spinal nerves. The cranial and sacral independent nerves were stimulated by pilocarpine and paralysed by atropine, whilst the sympathetic nervous system was not influenced by these substances. On the other hand, the sympathetic system was stimulated by adrenalin and cocaine, whilst codeine paralysed it. An organ controlled by both these nerve groups could be influenced by different poisons in an antagonistic way: thus the blood-vessels were contracted by pilocarpine and dilated by adrenalin or cocaine if the corresponding nerves have been poisoned by substances antagonistic to these. Little was at present known as regards the correlative actions of the internal secretion of the thyroid, adrenal, pancreatic, and sexual glands.

Health of Vienna.

The statistical figures for the last two months show that, although the morbidity of the city has been increasing, the mortality has declined in a satisfactory degree. The majority of the increases of disease is due to infectious conditions, inflammations, and infantile diseases. Measles was a well-marked feature of all the last reports. The sudden changes of the weather caused also many cases of bronchitis and pneumonia. Only one case of enteric fever was reported, but many cases of scarlet fever and measles occurred every week. A remarkable decrease of deaths due to neoplasms and tuberculosis has been observed during the last four months, but the fact cannot be explained as yet. The mortality from diphtheria has been constantly kept below 8 per cent., thanks to the absolutely strict adherence to Behring's teachings, enforced by the Vienna Board of Health.

May 11th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Pancreatic Disease Treated with Pancreatin.

Mr. Gedeon Richter, a chemist, has been investigating the effects of the administration of various organic products in a series of cases where disease of the pancreas was believed to be present. As thyroid extract is successfully administered in diseases of the thyroid gland he thought it probable that similarly good results might be obtained with pancreatic extract in disturbances of the pancreatic functions. A medical man who was associated with Mr. Richter in the inquiry considered that a diagnosis of pancreatic disease might be made when the patient suffered from pancreatic colic, disturbances of metabolism and digestion marked by the appearance of sugar in the urine, fatty stools, and diminished absorption of albuminoid substances. Among the various remedies which were tried they found that thyroidin exerted an unfavourable influence on the symptoms. Pancreon had little effect on the absorption of nitrogen and none at all on the fat. When pancreatin was used, however, the absorption of nitrogen was increased from 52 to 56 per cent. and the absorption of fat from 38 to 60 per cent. These favourable results were enhanced by the simultaneous administration of large doses of the alkaline carbonates but the use of the latter alone was not attended by any improvement. The best combination was a mixture of pancreatin and sodium bicarbonate.

Alcoholism and Arterio-sclerosis.

Dr. Révész of Nagyvarad in a recent discussion on the subject of alcoholism and arterio-sclerosis said that there was a universal consensus of opinion in literature to the effect that alcohol was the most prominent factor in the production of arterio-sclerosis. All the text-books on general medicine, and especially the text-books on diseases of the heart and arteries, agreed in this. There were, however, some sceptics. It was important to supply definite answers to the questions, What is alcoholism, and what is arterio-sclerosis? As regards the latter question, he believed that all cases should be excluded in which the radial artery was merely palpable but not tortuous or hard. At different hospitals a number of necropsies of patients with palpable arteries have been recorded without any changes being present that could be called arterio-sclerotic. Alcoholism would surely be considered to be present in extreme cases in which patients have consumed large amounts of intoxicating beverages for long periods of years. At various institutions in Hungary where chronic alcoholics were admitted Dr. Révész has secured the results of necropsies. Many of these individuals had been accustomed to take a litre of brandy a day. There was no doubt of the reality of the alcoholism in these cases. About 50 were excluded because of the evident presence of syphilis. In only 18 out of nearly 300 cases—i.e., in only about 6 per cent. of the whole—was there arterio-sclerosis of the peripheral vessels. Of course, all patients were excluded who were over 50 years of age. If the patients over 40 years of age were also excluded there remained only four patients—i.e., no more than 2 per cent. of the whole—suffering from arterio-sclerosis in confessed alcoholic cases.

Cardiac Symptoms in Anæmia.

Dr. Berkovics delivered an address on the subject of Cardiac Symptoms in Anæmia at a meeting of the Medical Society of a provincial town in Hungary. He said that the most interesting feature of pernicious anæmia was the slight amount of cardiac disease which existed in connexion with extremely marked pathological conditions of the blood. Even hard workers did not complain much of their hearts, nor, except for a certain amount of dilatation, were there any concomitant physical signs. Murmurs arising from the altered condition of the blood existed very often, but they were not as common as in chlorosis. They were to be found over the large vessels and accompanying the systolic sound of the heart. They changed very much with variations in the conditions of the patient's blood and might even disappear during intermissions of the disease. Since Dr. Billings of America had called attention to the fact that spinal symptoms were common in connexion with pernicious anæmia Dr. Berkovics has seen three cases which supported the observation made by Dr. Billings. Dr. Stockton has described nine cases in all of which spinal symptoms were associated with pernicious anæmia. In such cases dyspnœa was the most important symptom. Cases of the disease were often overlooked and it was not unusual for patients to come seeking advice under the belief that they were suffering from cancer of the stomach, disorder of the liver, disease of the heart, or locomotor ataxia.

The Toxic Agent of Cholæmia.

Dr. Landauer, writing in the *Orvosok Lapja* on the toxic agent of cholæmia, says that icteric patients sometimes develop an alarming series of cerebral symptoms which usually end in coma and death. The direct cause has frequently been a matter of speculation and it is as yet undecided whether the bile pigments, bile acids, or the loss of hepatic function are at fault. Dr. Landauer noticed a close resemblance to diabetic coma and concluded that the whole condition is an acid intoxication. The common bile-duct was ligatured in a number of rabbits and the blood was tested every day until death which generally occurred on the fifth or sixth day. The alkalinity gradually diminished day by day, but not to a sufficient degree to account for the symptoms on the basis of an acid intoxication. The amount of carbon dioxide was also found considerably below the normal. Since animals with much less alkali in their blood have been known to live for days it is probable that other factors are responsible for the fatal termination.

May 7th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Sanatoriums for Consumptives.

THE Victorian Sanatorium for Consumptives has hitherto been conducted on a dual system of paying and non-paying patients. The Inspector of Charities has recommended that the Government grant should be only continued on condition that certain rules of the institution are abolished. The rules objected to provide that all patients must pay their travelling expenses to and from the sanatorium and for washing while there; that separate accommodation must be provided for paying patients; that patients must possess certain articles of clothing; and that, unless unfitted by illness, each patient must be present at evening prayer. A medical superintendent has been appointed and in future only trained nurses will be employed. It is proposed that the name should be altered to the Macedon Sanatorium. The Premier has approved the recommendations.

Opium Traffic.

In December, 1905, the Federal Government made a proclamation in respect to prohibition of opium importation. The Controller-General of Customs has issued a report showing that it is very doubtful whether it has lessened to any great extent the amount of opium introduced. The report says, *inter alia*, "The official statistics show that the quantity of smoking opium imported in 1905 (the last year it was allowed) was 47,118 lb. The smoking of opium—that is, to any great extent as a general habit—is limited almost entirely to the Chinese population. This is estimated to number something under 26,000 in the whole of the Commonwealth. Of this number I am assured by our detectives that not more than a quarter are habitual opium-smokers. This would mean that there are 6000 or 7000 Chinese who use the drug in Australia. ...... Owing to the total prohibition the price of opium has risen enormously, ... a smoke costing 2*s.* 6*d.* The Commonwealth gladly gave up £60,000 revenue with a view to the suppression of the evil, but the result has not been what was hoped for. The gains are so enormous that others beside Chinese have been tempted to enter into the trade and so the chances of detection are greatly decreased.......What is necessary is a Commonwealth enactment that the mere possession of opium by any person on arrival in Australian jurisdiction shall be a penal offence, and State legislation to enact the same for possession within a State and for the use of the article in smoking.......The great bulk of the opium smuggled from the East is hidden in the coal of the steamers arriving. ......It was only the other day that a well-dressed woman, unexceptionable in appearance, was known to be going on board a steamer with a view to bringing opium ashore and to that end had a petticoat provided with large pockets in which to slip the tins. She was arrested and searched but the pockets were found empty, and she explained she had been disappointed."

Record Find of Plague Rats.

Although only two or three cases of plague in human beings have been reported in Sydney during the last three months plague rats continue to be discovered in various parts of the city. Recently a record find was made under a produce store in Sussex-street. No fewer than 38 rats, dead or dying from plague, were discovered at this establishment.

Inebriate Returns.

In July, 1907, a Government hospital for inebriates was opened at Lara, near Melbourne. In a report by Mr. W. Jones, the official inspector, it is shown that during the first six months of its existence 26 patients were received and 13 of these were allowed out on probation. Three were discharged and only one relapsed. 22 of the 26 were "regular" inebriates. The cost during that period (including purchase and alterations) was £10,550. Receipts amounted to £371 and salaries and maintenance totalled £957. Mr. C. G. Godfrey, the visiting medical officer, says: "It is apparent that some plan will have to be adopted to alter the present system of admitting indiscriminately all kinds of cases. It must be recognised that this institution, equipped only as a sanatorium, cannot successfully be used at the same time as a reformatory or as a place for detention of incurable cases or as a means for punishing wilfully vicious alcoholics. Experience has already shown that it is most undesirable and productive of harm to associate the discontented, especially those who have been sent to the institution against their will, with those cases anxious for recovery and carrying out their treatment cheerfully. The question of dealing with objectionable and wilfully insubordinate patients has already arisen. Under the present regulations there exists no means of punishing such conduct except by expulsion, which may be the object at which the patient aims. There is no obligation on the part of the patient to work. There is no power to compel him to do so." Dr. Godfrey thinks that it will be necessary to establish separate institutions for (1) voluntary and requitable cases; (2) inebriates unwilling to be cured but detained for treatment; and (3) irreclaimable inebriates and those of the vagrant class.

April 7th.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following candidates have passed the Third M.B. examination, Part II.:—

G. D. Alexander, Caius; H. T. Ashby, Emmanuel; J. H. Board, Pembroke; J. R. Briscoe, H. Selwyn; L. B. Cane, King's; G. G. Collet and T. R. Elliott, Trinity; E. G. Fearnsides, Trinity Hall; H. G. Frean, St. John's; B. C. Ghosh, St. John's; P. Hall-Smith, Pembroke; C. H. Ilott, Caius; R. L. Ley, Pembroke; H. N. Little, Caius; W. B. Marshall, St. John's; A. J. May, Sidney-Sussex; J. B. Mennell, Pembroke; H. E. B. Oakeley, St. John's; M. Phillips, Caius; K. Pretty, King's; R. C. Priest and K. D. Pringle, Caius; M. R. Sawhny, Downing; L. W. Sharp, Caius; R. W. S. Walker, Trinity; E. G. Wheat, Christ's; C. E. Whitehead, Caius; and J. F. Windsor, H. Selwyn.

The following candidate has passed the M.C. examination:—

H. T. Gray, Trinity.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the President, Vice-President, and Council held on May 5th the following examiners were elected for the ensuing year:—Court "A"—Anatomy: Mr. Alexander Fraser and Dr. Bertram C. A. Windle. Surgery: Mr. Charles A. K. Ball, Mr. Alexander Blayney, Mr. E. Conway Dwyer, and Mr. Robert J. Harvey. Physiology and Histology: Mr. Denis J. Coffey and Mr. E. L'Estrange Ledwich. Pathology and Bacteriology: Mr. Arthur Hamilton White. Midwifery and Gynæcology: Dr. Frederic W. Kidd. Biology: Mr. John J. Burgess. Ophthalmology: Mr. Arthur H. Benson and Mr. Herbert H. B. Cunningham. Sanitary Law and Vital Statistics: Mr. Edward Francis Stephenson. Engineering and Architecture: Mr. James H. Fergusson. Languages: Mr. Latham J. Woodroffe. Mathematics, Physics, Dictation, and English: Mr. John W. Tristram. Court "B"—Anatomy: Mr. Patrick Joseph Fagan and Mr. Alexander Fraser. Surgery: Mr. Charles A. K. Ball, Mr. Alexander Blayney, Mr. E. Conway Dwyer, and Mr. Leveson-Gower Gunn. Physiology and Histology: Mr. Denis J. Coffey and Mr. E. L'Estrange Ledwich. Pathology and Bacteriology: Mr. Robert J. Rowlette and Mr. Arthur Hamilton White. Midwifery and Gynæcology: Dr. Frederic W. Kidd. Chemistry and Physics: Mr. Edwin Lapper and Mr. Robert J. Montgomery. Dental Surgery and Pathology: Mr. George M. P. Murray and Mr. William G. Story. Mechanical Dentistry: Mr. Daniel L. Rogers and Mr. Edward Sheridan.

THE LATE MR. CHARLES EDWIN LAYTON.—Mr. C. E. Layton, whose death occurred on April 29th, at his residence, 17, Cornwall-terrace, Regent's Park, at the age of 65 years, was well known to the medical profession in his capacity of a generous and discriminating supporter of charities. He was until 1897, when he retired, a member of the firm of Charles and Edwin Layton, printers and publishers, of Farringdon-street, and was a director of the old New River Company and of the company of the same name which was formed to manage the properties not taken over from the old company on the formation of the Water

Board. On his retirement from active business he devoted much of his time and thought to philanthropic work, especially in connexion with the various charities connected with the Haberdashers' Company. He was an Associate of King's College, a member of the house committee of St. Bartholomew's Hospital, upon the council of King's College Hospital, and a vice-president of the Royal National Hospital for Consumption, Ventnor. Amongst other institutions with which he was prominently connected were the Corporation of the Sons of the Clergy, the Poor Clergy Relief Fund, and the Metropolitan Hospital Sunday Fund. He was also a generous supporter of the charities in connexion with the publishing trade.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—A quarterly meeting of the Royal College of Physicians of Edinburgh was held on May 5th, Dr. J. Playfair, Vice-President, in the chair. The Vice-President at the beginning of the meeting referred to the great loss which the College had sustained in the death of the President, Dr. C. E. Underhill, and submitted a minute of sympathy, which was adopted and sent to the relatives. Dr. George Douglas McRae and Dr. Harold Sherman Ballantyne were introduced and took their seats as Fellows of the College. Dr. George Herbert Rae Gibson, M.B., Ch.B., Edinburgh, and Dr. Thomas Goodall Nasmyth, M.D., D.Sc., D.P.H., Edinburgh, were admitted by ballot to the Membership of the College. The registrar reported that since the last quarterly meeting 34 gentlemen had obtained the Licence. The curator's report regarding the research and reporting work undertaken in the laboratory during the last year and the expenditure incurred was submitted. The report showed that 33 workers had been engaged in research, that 3022 specimens had been reported on, being an increase of 291 on the number for the previous year, and that the expenditure had amounted to £1060. The report was adopted by the College. Dr. Norman Walker was re-elected as representative of the College on the Conjoint Committee of Management of the Triple Qualification. Dr. Frederick W. Mott was appointed Morison lecturer for the ensuing session.

THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.—The festival dinner of this charity was held at the Trocadéro Restaurant on May 12th, Mr. H. Robertson, chairman of the house committee, being in the chair. Covers were laid for about 200 guests and the proceedings were marked with much enthusiasm. It is now 60 years since the hospital commenced its work in Liverpool-street in the heart of the East End, and it is attended by enormous numbers of poor people. Since the foundation of the hospital 40,317 in-patients have been admitted to the wards and 737,978 out-patients have attended the out-patient department. The toast of "The Medical Staff" was proposed by Mr. F. Brinsley-Harper who referred to the great work of Lord Lister and described in eulogistic terms the services of the medical officers of the institution. This toast, which was honoured with musical honours of the heartiest and loudest character, was replied to by Dr. G. A. Heron who described the success that had attended the dental department: more than 700 patients had received advice, there had been 400 administrations of gas, 1600 extractions of teeth under anæsthesia, and 300 extractions without anæsthesia. The chairman proposed the toast of "Prosperity to the City of London Hospital for Diseases of the Chest" and emphasised the fact that the hospital was largely supported by subscriptions from the working classes. The secretary then announced that the subscription list amounted to £2081. Sir M. M. Bhownaggree proposed "The Honorary Officers and Executive Staff," which was responded to by Mr. F. Hyland. Dr. E. C. Beale having submitted the toast of "The Chairman," to which a suitable reply was made, the proceedings terminated.

LITERARY INTELLIGENCE.—Mr. H. K. Lewis has just issued the fourth edition of "Public Health Laboratory Work" by Professor H. R. Kenwood, of University College, London, and has ready for immediate publication the sixth edition of Dr. William Murray's "Rough Notes on Remedies," which will contain the address recently delivered before the Royal Society of Medicine, together with other new matter. The same publisher will also issue Professor Ehrlich's Harben Lectures on "Experimental Researches on Specific Therapeutics," which were delivered at the Royal Institute of Public Health in 1907, and a book on "The Extraction of Teeth" by Mr. Frank Coleman.—Messrs. Spottiswoode and Co., Limited, are about to publish by subscription a volume dealing with the leaving portraits in the Provost's Lodge at Eton College, which may be of interest to some of our readers. The College possesses a series of portraits of boys painted by the master-hands of Reynolds, Gainsborough, Lawrence, Romney, Hoppner, West, and Beechey, 100 of which will now be reproduced by photogravure, together with a catalogue of the whole series. Further particulars may be had by applying to the publishers at 5, New-street-square, London, E.C.—A second edition of the "System of Midwifery," by Dr. T. W. Eden, is just ready. It will contain about 50 more pages, 16 additional plates, and other new illustrations. To meet the needs of army officers, who are now required to pass examinations in sanitation and hygiene, Lieutenant-Colonel R. H. Firth, R.A.M.C., has compiled a small book on Military Hygiene. The text will be illustrated by original drawings. Both of these books will bear the imprint of J. and A. Churchill.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Gustav Guldberg, professor of medicine in the University of Christiania, at the age of 54 years. His published works deal mainly with anatomy, both human and comparative. He wrote much on the anatomy of cetaceæ.—Dr. Karl Breitenbach of Aschaffenburg.

THE ROYAL SANITARY INSTITUTE.—The dinner of the Royal Sanitary Institute took place this year at the Langham Hotel on May 12th and was the occasion for the delivery of several interesting, amusing, and encouraging speeches. The Duke of Northumberland, K.G., presided, and he was able to announce that the institute now numbered 3700 members, that it possessed a capital of £17,000, and that the revenue last year amounted to £7857. They had held 579 meetings and had addressed probably some 22,000 people. The examinations concerning hygiene in its bearings on school life formed a recent innovation that was likely to prove of great help in carrying out the medical inspection and sanitary control of school children. But the most important fact, so far as the interests and usefulness of the institute are concerned, is the hope entertained that it will be able to remove at an earlier date to more suitable premises. These will be in the neighbourhood of Victoria Station and will supply double the present accommodation. Lady Douglas Galton has subscribed £100 towards the cost of these premises and it is proposed to name a section of the new muesum the "Douglas Galton Gallery." Mr. Justice Grantham gave a very humorous sketch of the legislature, comparing the House of Commons to a younger brother who was ever drawing at sight on his elder brother the House of Lords, till the latter at last refused to honour the bills. Thus we had been promised a big fight between the two, but after all, and at the last moment, the younger brother had "knocked under," so perhaps we should have some useful legislation after all. Lord Robert Cecil, M.P., was also sarcastic and amusing, remarking that after having a big row in the House the rival parties went to the law courts to see what they had done and then generally discovered that the law which they had passed was what neither of them had intended. But now, however, that the Board of Agriculture and Fisheries was to decide on town planning we might hope for more coherence! Though the majority of the present House was not to his liking he must say that there had been some very excellent sanitary legislation. Sir Shirley F. Murphy in his speech found fault with the Port of London Bill because it placed the control of the upper reaches of the Thames in the hands of the very people who pollute the water. In regard to legislation, the President drew attention to the fact that there was an alteration in the methods of sanitary progress. Formerly people believed in decentralisation and thought the work would be best done by small local bodies. Now it was felt that these bodies neglected to apply the laws. What was most needed was not fresh sanitary laws but a more rigorous application of the existing laws. Therefore it might be wise to give larger powers to the county councils. Where, however, the central government had to interfere it ought not to have the right to impose a local rate. Sir R. Douglas Powell, President of the Royal College of Physicians of London, summed up the whole situation in regard to the Royal Sanitary Institute by saying that if it continued at its present rate of progress the time was fast approaching when the physician will no longer be able to live or to die.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

New-born Children (Protection) Bill.

THE order for the second reading of the New-born Children (Protection) Bill has been discharged in the House of Commons and the Bill withdrawn.

The Children Bill.

One of the Grand Committees of the House of Commons has been dealing with the Children Bill and considerable progress has been made with it. The recommendations of the Select Committee which recently reported on the notification and inspection of homes in which infants are nursed and maintained in consideration of reward have been adopted and embodied in the first part of the Bill. The effect of the changes in the Bill is to extend the notification and inspection instituted under the Infant Life Protection Act, 1897, to "one-child homes" and to raise the age limit of the children who are the subject of inspection from five to seven years. Mr. HERBERT SAMUEL, the Under Secretary for the Home Department, who has been in charge of the Bill, has consented to give full consideration to amendments dealing with the particulars to be given in the notification to the local authorities before the report stage of the measure is reached. A good deal of criticism was directed to the penalties proposed to be inflicted by Clause 14 for overlaying infants. The maximum penalty proposed was a fine of £10 which might be increased to £25 if the person who caused the death was under the influence of drink at the time, and the punishment might be supplemented by a term of imprisonment not exceeding three months. Several members of the committee expressed the view that the provisions of the clause were too drastic, that it would cause injustice and bring hardship to the poorest mothers in the country, and that negligence ought to be proved before a person was convicted. Mr. MACLEAN, in supporting the clause, however, pointed out that 1400 or 1500 children lost their lives every year through being overlaid, and in 85 per cent. of the cases the mothers were censured by the coroner's jury for neglect. Ultimately Mr. SAMUEL promised to bring up a redrafted clause at a later stage which he hoped would meet the approval of the committee. In the meantime Clause 14 was deleted from the Bill.

The Budget.

The features of the Budget, which was presented to the House of Commons on Thursday, May 7th, are the inception of a scheme of old age pensions and a reduction of the sugar duty. The age at which the pensions are to commence has been selected at 70 years and the amount of the pension is fixed at 5*s.* per week, with the limitation that only persons with an income of less than 10*s.* a week are to be eligible. There is no alteration in the income tax but the differentiation in favour of earned incomes is maintained.

Infant Life Protection (No. 2) Bill.

Lord ROBERT CECIL has introduced into the House of Commons a Bill "to prevent the destruction of children during birth." It is entitled the Infant Life Protection (No. 2) Bill and has been read a first time. He has the support of Mr. SHACKLETON, Mr. CHIOZZA MONEY, and Mr. SIMON in presenting the measure.

The Poisons and Pharmacy Bill.

The Joint Committee of both Houses of Parliament on the Poisons and Pharmacy Bill heard evidence on Tuesday. Mr. J. R. YOUNG, Warrington, President of the Pharmaceutical Society of Great Britain, and Mr. J. RUTHERFORD HILL, Secretary, Pharmaceutical Society, Edinburgh, both expressed themselves hostile to permitting limited liability companies using the name of chemists and druggists. Mr. HILL quoted extracts from a letter which he had received from Professor HARVEY LITTLEJOHN of the University of Edinburgh on this subject. "It has been the immemorial custom in Scotland," wrote Professor LITTLEJOHN, "in contradistinction to the general practice in England, for doctors not to dispense their own medicines but to have their prescriptions made up by 'chemists' or 'chemists and druggists' as they are called. The term chemist and druggist has always had the meaning *qualified* chemist, and such confidence does the medical profession of Scotland show in this title that it is a *common* occurrence to hear the doctor remark when asked by the patient where he ought to get the prescription made up 'Oh, any chemist or druggist.' The title as used in Scotland carries with it a guarantee of professional standing which has in later years been somewhat depreciated by the numerous drug stores which have arisen. The medical profession demand a guarantee of accuracy in dispensing, and this can only be obtained by properly qualified dispensers being employed in the making up of all prescriptions, whether these contain poisons or not."

HOUSE OF COMMONS.

WEDNESDAY, MAY 6TH.

Hospital Accommodation at Tidworth Barracks.

Captain FABER asked the Secretary of State for War whether the hospital accommodation for Tidworth Barracks was now definitely completed.—Mr. HALDANE answered: The reply is in the negative.

Captain FABER further asked whether the right honourable gentleman would state the material of which the isolation hospital at Bulford was built, seeing that in reply to a question asked in the House on April 30th he said that the scarlet fever cases were in the isolation hospital at that place.—Mr. HALDANE replied: The isolation hospital is built of corrugated iron lined with matchboarding.

Diphtheria and Wood Pigeons.

Major ANSTRUTHER-GRAY asked the President of the Local Government Board whether his attention had been called to the prevalence of a disease, diagnosed as akin to diphtheria, in wood pigeons, cats, and other birds and animals; whether, in view of the large quantities of diseased wood pigeons discovered in several counties during the last winter he would cause a full and searching inquiry to be made as to whether this disease was dangerous to man, and if so, what steps should be taken to cope with it.—Mr. BURNS furnished the following written answer: My attention has been called to the existence of this disease, and I have already caused a pigeon suffering from it to be examined at the Lister Institute. It was found that the disease in it was not due to the same organism or microbe as that causing human diphtheria, nor to the organism which caused a rather similar outbreak in pigeons in 1907, which was investigated by the Local Government Board at the time. The nature of the organism causing the recent outbreak is still being investigated, but there is some difficulty in continuing the investigation, as the disease has apparently now died out. I am advised that, so far as can be gathered, there is no evidence that the disease is dangerous to man.

THURSDAY, MAY 7TH.

The Sanitary Condition of Factories.

Mr. CHIOZZA MONEY asked the Secretary of State for the Home Department whether his attention had been directed to a report on the cutlery trade of Solingen by Dr. Harold Scurfield, the medical officer of Sheffield, according to which one of the most noteworthy features among the German factories was that it was compulsory for the owners to provide lavatory basins with hot and cold water, shower baths, and clothes' lockers for the use of the employees, with the result that the men went home from their work in clean clothes and with clean hands and faces, whereas at one time the Solingen workmen worked under the filthy conditions which frequently obtained at Sheffield; and whether he could promise legislation to increase health and industrial efficiency through the compulsory provision of the means of cleanliness for British workpeople.—Mr. GLADSTONE replied: Yes, sir, the attention of the Home Office has been called to this report and I may say that the conditions of work at Solingen had already been the subject of inquiry by the Home Office in connexion with the framing of regulations for the grinding industry. The feature mentioned by my honourable friend as well as other and more important features in the German factories are receiving our attention. The provision of washing and cloak-room accommodation has hitherto only been required by law in factories and workshops in this country where danger to health exists, as, for example, from the use of poisonous materials. The point is always borne in mind in framing regulations for dangerous trades, and requirements on the subject have been included in a number of the existing codes. I am not prepared, however, to promise legislation to make such provision generally compulsory in all factories and workshops.

Vaccine Lymph.

Mr. LUPTON asked the President of the Local Government Board whether he was aware that on March 9th, 1908, Doris Irene Leese, daughter of George Leese, of 8, Grove-road, Fenton, Staffordshire, died at the age of three months as the result of vaccination, as shown in the death certificate; and if in consequence he would take steps to stop the distribution by the Local Government Board of vaccine lymph until some stuff had been discovered which could be used without danger.—Mr. BURNS answered: My attention has been called to this case and I am making inquiry with regard to it. I could not, however, undertake to stop the issue of glycerinated calf lymph.

The Colonial Surgeon of St. Helena.

Major ANSTRUTHER-GRAY asked the Under Secretary of State for the Colonies whether, in view of the position which had lately arisen, and might arise again, owing to the only medical man in St. Helena being incapacitated from work, and the distance and delay involved in procuring other medical assistance, he would consider the desirability of appointing an assistant medical officer for that colony.—Colonel SEELY said in reply: The Secretary of State has not received any intimation of the colonial surgeon of St. Helena being incapacitated from work and regrets that he cannot add anything to the answer returned by my predecessor to the question asked by the honourable and gallant Member on the same subject on March 26th last.

Boric Acid as a Preservative.

Mr. STUART SAMUEL asked the President of the Local Government Board whether he was taking any steps by Order in Council under the Public Health (Regulation of Foods) Act, 1907, for the regulation of the proportion of boric acid that might be employed in articles of food, and if so whether he could give some definite statement on the subject at an early date in order to allay confusion in the public mind and to assist the local authorities in deciding what line of action they should take in the matter.—Mr. BURNS furnished the following written answer: I am giving attention to this matter and have directed inquiries to be made with regard to the present position of preservatives in certain food-stuffs. The matter is one which requires careful investigation and I am not at present in a position to make any definite statement with respect to it.

MONDAY, MAY 11TH.

The Bulford Isolation Hospital.

Captain FABER asked the Secretary of State for War what was the accommodation in the Bulford Isolation Hospital for scarlet fever cases, when this isolation hospital was erected, and how long it had been used for that purpose; and what was the total number of regiments and batteries within a six-mile radius of Bulford.—Mr. HALDANE replied: The hospital has accommodation for four beds; it was completed in January, 1904, and has been used as an isolation hospital since that date. The accommodation has been supplemented by a hospital marquee erected in the infectious inclosure on April 23rd, 1908, but this has not yet been required. The number of batteries and regiments within a radius of six miles is 18.

The Temperature of Factories.

Mr. Devlin asked the Secretary of State for the Home Department whether his attention had been called to a case heard at the Derry city petty sessions on April 30th last in which Messrs. Tillie and Henderson, Foyle Factory, were summoned by Miss Hilda Martindale, inspector of factories, for having failed to take adequate measures for securing and maintaining a reasonable temperature in a room in the factory so as not to interfere with the purity of the air; whether he was aware that it was given in evidence that in one of the rooms where 86 women and girls were working the temperature was found to be 46° in one part and 49° in another, that the room was not provided with any means of securing warmth and the 26 windows in it were closed owing to the cold, that it was contended by the defence that the breath of the workers was sufficient to heat the rooms properly, that medical evidence given was to the effect that a temperature of 46° to 49° induced lung trouble, neuralgia, and rheumatism, and that the warmth produced by the breath of the workers vitiated the air; was he aware that it was contended by the defence that the temperature of prisons was good enough for the workers, and that the bench by a majority dismissed the case, and refused to state a case except on a point of law; and whether, in view of the importance to the workers of the issue raised in this case, he proposed to take any further action with regard to it.—Mr. Gladstone answered: I have received a report of the proceedings in this case and the facts are substantially as stated in the question. I cannot agree with the view taken by the court that a temperature of 46° was a reasonable temperature for persons engaged in a sedentary occupation, and it is a view, I think, which few, if any, other courts would take. No other case of the kind has come to my notice. I am advised that there is no appeal from the decision, but the matter shall have my consideration with a view to seeing what further steps may be desirable.

Irish Universities Bill.

Mr. J. H. M. Campbell (speaking on the motion for the second reading of the Irish Universities Bill) said in the course of his speech that the Bill seemed to perpetrate a great injustice upon the Royal College of Surgeons in Ireland. He was, however, convinced that when this case was presented to the Chief Secretary he would realise the injustice which the Bill would inflict upon that old institution. There were three schools of medicine in the city of Dublin. One of them was in Trinity College, University of Dublin. It was not available for students whose means did not enable them to pay the high fees or for those who wanted to get their medical degree in as short a period as possible. There was also the St Cecilia-street School of Medicine, which had been the medical faculty of the Catholic College, and it of course would become the medical school of the new University. Not only did the Roman Catholic bishops encourage it in every way in their power, but it was now notorious that in the South and West of Ireland no medical applicant for any post had a chance with the local bodies unless he could show the diploma of the St. Cecilia street School. Therefore that school had a tremendous advantage over the Medical School of the Royal College of Surgeons in Ireland, which had been in existence since 1734. The Medical School of the Royal College had been most successful, although it had no endowment from the State. It had lived on its own merits. It had neither politics nor particular views and it had been a conspicuous success. It had over 3000 Licentiates. What was going to be its position under the Bill? The new University created by the Bill would at once adopt the St. Cecilia-street School as its school of medicine. It would have all the special equipment of bursaries, grants, and professorships. How would it be possible for the School of Medicine attached to the Royal College of Surgeons to compete with it? The School of the Royal College would inevitably go under and they would thus have killed the only undenominational school of medicine in Ireland. How could the Government resist the demand of the Royal College for some compensation, so that they might be able to compete, even at a distance, with the St. Cecilia-street School? That demand was consistent with ordinary justice.

Mr. Birrell (the Chief Secretary to the Lord Lieutenant), in replying to the debate, made no reference to the case of the Medical School of the Royal College of Surgeons.

The motion for the second reading of the Bill was carried by 344 votes to 31.

TUESDAY, MAY 12TH.

The Disposal of Trade Effluents.

Answering Mr. Clough, Mr. Burns said: I am desirous of introducing legislation to deal with the subject of trade effluents, if possible, this session, but I cannot state beforehand what will be the contents of the measure.

Female Inebriates in London.

Mr. Bright asked the Secretary of State for the Home Department whether he was aware that, at the County of London sessions, the magistrates had recently been compelled to discharge several female habitual drunkards who would have been committed to homes had there been any accommodation to receive them; whether this situation had arisen through the failure of the County Council to provide such accommodation; and whether he proposed to take any, and, if any, what, action in the matter.—Mr. Gladstone replied: I am sorry to say that magistrates in London have recently had many such cases before them. In answer to a question put to me in February I set out at some length the causes which have given rise to this situation. I have appointed a committee, of which the honourable Baronet the Member for the Chippenham division is chairman, "to inquire into the operation of the law relating to inebriates and to their detention in reformatories and retreats, and to report what amendments in the law and in its administration are desirable," and I hope the committee will be able at an early date to suggest a solution of the difficulties which are rendering the Inebriates Act of 1898 practically inoperative so far as London women are concerned.

Belfast Health Commission.

Mr. Devlin asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state the probable cost of the Belfast Health Commission; and whether the whole of the cost would have to be defrayed by the ratepayers.—Mr. Birrell answered: The cost of the inquiry in question has not yet been ascertained. It has been arranged that £500 of the cost will be borne by the Exchequer. The remainder will fall upon local rates.

The Housing, Town Planning, &c., Bill.

Mr. Burns, in moving the second reading of the Housing, Town Planning, &c., Bill, drew attention to the bearing of overcrowding and defective housing on disease. Bad as overcrowding was in the towns, it was in some respects relatively as bad in the country. In rural districts the tendency was to get worse and worse. One could give individual instances where families were crowded in small cottages, bad in structure and insanitary in condition, and where the conditions, if they happened to be in a Liverpool, Glasgow, or London slum would be termed intolerable. He pointed out the fact that in the whole of England 4 per cent. of the population lived in one room, in London 14 per cent., in Edinburgh 17, in Glasgow 26, in Dublin 36, in Paris 26, and in Berlin 50 per cent. How did this reflect upon the health of the population? In Berlin they would find that the death-rate ranged from 18 to 20, and in London from 14 to 16. They would further find that in London, in diseases like scarlet fever, typhus fever, and even tuberculosis, they compared well with towns abroad, where the overcrowding was greater. The Government, therefore, promoted the Bill not only for the convenience of the people of the country but in consideration of their health. He went on to say that back-to-back houses gave a very high death rate, and in stable dwellings—which he trusted they would get rid of quicker than some people thought—the proportion of deaths to the rest of the community was still higher. In London wherever they had great density per room they found infant mortality and overcrowding producing disease to an extent which they had no right to permit. The Government hoped to modify and ultimately to abolish these bad conditions of housing. The right honourable gentleman then went on to detail the machinery of the Bill.

In the course of the subsequent discussion Mr. Adkins and several other members spoke favourably of the proposals in the Bill relating to the appointment of medical officers of health.

The Bill was ultimately read a second time.

BOOKS, ETC., RECEIVED.

American Climatological Association. (Secretary and Treasurer: Guy Hinsdale, M.D., Hot Springs, Va., U.S.A.)

Transactions of the American Climatological Association. For the Year 1907. Volume XXIII. Price not stated.

Associated Newspapers, Limited, London, E.C.

Daily Mail Year Book of the Churches for 1908. Edited by Percy L. Parker, Editor of "Daily Mail Year Book" and "Public Opinion." Price 6*d.* net.

Bale (John), Sons, and Danielsson, Limited, 83–91, Great Titchfield-street, London, W.

The Bradshaw Lecture on Prognosis in Relation to Treatment of Tuberculosis of the Genito-Urinary Organs. Delivered before the Royal College of Surgeons of England, December, 1907. By Rickman J. Godlee, M.S., F.R.C.S. Eng., Surgeon-in-Ordinary to the King; Surgeon to University College Hospital. Price 2*s.* 6*d.* net.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent-garden, London, W.C.

Table of Veterinary Posology and Therapeutics, with Weights, Measures, &c. For the Use of Students and Practitioners. By George A. Banham, F.R.C.V.S., Member of the Council and late Vice-President of the Royal College of Veterinary Surgeons. Third edition. Price 2*s.* 6*d.* net.

Baillière, J. B., et Fils, 19, Rue Hautefeuille, Paris.

La Diathèse Urique, *Par Henri Labbé*, Chef de Laboratoire à la Faculté de Médecine de Paris. ("Les Actualités Médicales.") Price Fr. 1.50.

Cassell and Company, Limited, London, *Paris*, *New York*, Toronto, and Melbourne.

Diseases of the Nervous System. By H. Campbell Thomson, M.D. Lond., F.R.C.P., Physician to Out-patients at the Middlesex Hospital, Dean of, and Medical Tutor in, the Middlesex Hospital Medical School; Physician to the Bolingbroke Hospital and to the Hospital for *Epilepsy* and Paralysis, Maida Vale. Price 10*s.* 6*d.*

Electrical Treatment. By Wilfred Harris, M.D., F.R.C.P., Physician to Out-patients; Physician to the Department for Nervous Diseases, and Lecturer on Neurology, St. Mary's Hospital; Physician to Out-patients, Hospital for Epilepsy and Paralysis, Maida Vale. Price 7*s.* 6*d.*

Collingridge, W. H. and L., "City Press," Office, Aldersgate-street, London, E.C.

The City of London Directory for 1908. Thirty-eighth annual edition. Price 12*s.* 6*d.*

Doin, O., 8, *Place de l'Odéon, Paris.*

Traité de l'Alimentation et de la Nutrition à l'État Normal et Pathologique. Par le Dr. E. Maurel, Médecin Principal de Réserve de la Marine, Professeur à la Faculté de Médecine de Toulouse. Deuxième Volume. Les Rations à l'État Normal. Price Fr. 14.

Engelmann, Wilhelm, Leipzig.

Die Periphere Innervation. Kurze übersichtliche Darstellung des Ursprungs, Verlaufs und der Ausbreitung der Hirn- und Rückenmarksnerven. Mit besonderer Berücksichtigung wichtigster pathologischer Verhältnisse. Von Dr. med. Emil Villiger, Privat-dozent für Neurologie und Neuropathologie an der Universität Basel. Price M. 3.60.

Everard Edward, 38, Broad-street, Bristol.

A Chronology of Medical History. By James Young, M.D. Price 2*s.* 6*d.*

FISCHER, GUSTAV, Jena.

Gehirn und Schädel. Eine Topographisch-Anatomische Studie in Photographischer *Darstellung*. Von *Dr. Fr.* Hermann, A.O., Professor der Anatomie an der Universität Erlangen. Price M.60.

FROWDE, HENRY, and HODDER AND STOUGHTON, 20, Warwick-square, London, E.C.

Oxford Medical Publications. Diseases of the Spinal Cord. By R. T. Williamson, M.D. Lond., F.R.C.P., Assistant Physician, Royal Infirmary, and Lecturer in Medicine, Victoria University, Manchester. Price 15s. net.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.

The Diseases of Children. A Work *for the* Practising Physician. Edited by Dr. M. Pfaundler, Professor of Children's Diseases and *Director of the Children's Clinic* at the University of Munich, and Dr. A. Schlossmann, Professor of Children's Diseases and Director of the Children's Clinic at the Medical Academy in Dusseldorf. English translation. Edited by Henry L. K. Shaw, M.D. Albany, N.Y., Clinical Professor, Diseases of Children, Albany Medical College; Physician-in-Charge, St. Margaret's House for Infants, Albany; and *Linnæus La Fétra*, M.D., New York, N.Y.; Instructor of Diseases of Children, Columbia University; Chief of Department of Diseases of Children, Vanderbilt Clinic; Assistant Attending Physician to the Babies' Hospital. With an Introduction by L. Emmett Holt, M.D., New York, N.Y., Professor of Pediatrics, Columbia University. In Four Volumes. Price £4 4s. net.

KARGER, S., Karlstrasse, 15, Berlin. (WILLIAMS AND NORGATE, 14, Henrietta-street, Covent-garden, London, W.C.)

Lehrbuch der Ohrenheilkunde für Studierende und Aerzte. Von Dr. Georg Boenninghaus, Privatdocent für Ohrenheilkunde, Ohrenarzt am St. Georgs-Krankenhaus zu Breslau. Price M 9.60.

KEGAN PAUL, TRENCH, TRÜBNER AND CO., LIMITED, Dryden House, Gerrard-street, London, W.

Songs from the Downs and Dunes. By Habberton Lulham. Price 3s. 6d. net.

The Evolution of Forces. By Dr. Gustave Le Bon, Membre de l'Académie Royale de Belgique. (The International Scientific Series. Edited by F. Legge.) Price 5s.

KLINKHARDT, DR. WERNER, VERLAG VON, Leipzig.

Taschenbuch der Physiologie. Von Prof. Dr. med. H. Boruttau, in Berlin. In two parts. Price not stated.

Untersuchungen zur Kenntnis der psychomotorischen Bewegungsstörungen bei Geisteskranken. Von Dr. Karl Kleist, Assistenzarzt der Klinik für Nerven- und Geisteskrankheiten zu Halle a.S. Price M.4.50.

LAURIE, T. WERNER, Clifford's Inn, Fleet-street, London, E.C.

Before Adam. By Jack London, Author of "The Call of the Wild," "White Fang." Price 6s.

LEWIS, H. K., 136, Gower-street, London, W.C.

Materia Medica and Pharmacy. For Medical Students. With an Appendix on Incompatibility. By Reginald R. Bennett, B.Sc. Lond., A.I.C., Pharmaceutical Chemist, Pharmacist, and Teacher of Pharmacy to University College Hospital, London. Price 4s. 6d. net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London, E.C., and New York, Bombay, and Calcutta.

Quain's Elements of Anatomy. Editors: Edward Albert Schäfer, LL.D., Sc.D., F.R.S., Professor of Physiology and Histology in the University of Edinburgh; Johnson Symington, M.D., F.R.S., Professor of Anatomy in Queen's College, Belfast; and Thomas Hastie Bryce, M.A., M.D., Lecturer in Anatomy, University of Glasgow. In four volumes. Vol. I., Embryology. By T. H. Bryce. Eleventh edition. Price 10s. 6d. net.

MAUNSEL AND CO., LIMITED, 96, Middle Abbey-street, Dublin.

Ireland's Crusade against Tuberculosis. Being a Series of Lectures delivered at the Tuberculosis Exhibition, 1907, under the Auspices of the Women's National Health Association of Ireland. Edited by the Countess of Aberdeen. Volume I. Price. 1s. net.

METHUEN AND CO., 36, Essex-street, Strand, London, W.C.

The Senses of Insects. By Auguste Forel. Translated by Macleod Yearsley, F.R.C.S. Price 10s. 6d net.

The Life and Letters of Herbert Spencer. By David Duncan, LL.D., *late Director of* Public Instruction, Madras. Price 15s.

MURPHY (JOHN L.) PUBLISHING COMPANY, Trenton, N.J., U.S.A.

Thirty-first Annual Report of the Board of Health of the State of New Jersey, 1907, and Annual Report of the Bureau of Vital Statistics. Price not stated.

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, India, Calcutta.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. (New Series.) No. 29. Piroplasma Canis and its Life Cycle in the Tick. By Captain S. R. Christophers, M.B., I.M.S. Price 2 Rupees or 3s.

No. 30. The Theory and Practice of Anti-rabic Immunisation. By Captain W. F. Harvey, M.B., I.M.S., and Captain Anderson McKendrick, M.B., I.M.S. Price 12 Annas or 1s. 2d.

PARTRIDGE, S. W., AND CO., 8 and 9, Paternoster-row, London, E.C.

Grenfell of Labrador. By James Johnston, A.T.S., Author of "Missionary Landscapes in the Dark Continent," &c. Price 1s. 6d.

ROYAL UNIVERSITY OF IRELAND, Dublin.

The Royal University of Ireland. Examination Papers, 1907. A Supplement to the University Calendar for the Year 1908. Price not stated.

SIMPKIN, MARSHALL, AND CO., LIMITED, London.

Manual of Medical Jurisprudence, Toxicology, and Public Health. By W. G. Aitchison Robertson, M.D., D.Sc., F.R.C.P.E., F.R.S.E., Lecturer on Medical Jurisprudence and Public Health, School of Medicine, Royal College of Surgeons, Edinburgh. Price not stated.

SPIELHAGEN UND SCHURICH, Wien und Leipzig.

Die Perkutane Entgiftung. Ein wirksames Heilverfahren gegen alle fieberhaften Krankheiten. Von Med. Dr. F. Schürer v. Waldheim, Wien III., Strohgasse, 20. Price 10 Kronen, or M.8.50.

"THE PILOT" PRESS, 89, Farringdon-street, London, E.C.

Cancer: Operation not the Cure but a Cause. By John Shaw, M.D. Lond., Formerly Vice-President, British Gynæcological Society, and (for upwards of 20 years) Physician for Diseases of Women, North-West London Hospital. Price 1s. net.

VIGOT FRÈRES, 23, Place de l'École-de-Médecine, Paris.

Journal d'un Praticien. Consultations sur la Grossesse, l'Accouchement, les Maladies des Femmes et les Soins à donner aux Nourrissons. Observations personnelles, notées au Cours même des Événements et commentées. Par H. Stapfer. Price Fr. 10.

Les Eunuques à travers les Ages. Par le Dr. Richard Millant. Price Fr.3.50.

W. B. SAUNDERS COMPANY, Philadelphia and London.

Diseases of the Heart. By Prof. Th. v. Jürgensen of Tübingen, Prof. L. v. Schrötter of Vienna and Professor L. Krehl of Greifswald. Edited with Additions by George Dock, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, University of Michigan, Ann Arbor. Authorised Translation from the German, under the *Editorial Supervision of* Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. (Nothnagel's Practice of Medicine.) Price 21s. net.

Surgery, its Principles and Practice. By Various Authors. Edited by William Williams Keen, M.D., LL.D., Emeritus *Professor of the Principles of Surgery* and *of Clinical Surgery*, Jefferson Medical College, Philadelphia. Volume III. Price, cloth, 30s. net; half morocco, 34s. net.

Atlas and Text-book of Human Anatomy. By Dr. Johannes Sobotta, *Professor* of Anatomy in the University of Würzburg. Edited, with additions, by J. Playfair McMurrich, A.M., Ph.D., Professor of Anatomy in the University of Toronto; formerly Professor of Anatomy in the University of Michigan. Volume III. Vascular System, Lymphatic System, Nervous System and Sense Organs. Price 25s. net.

The Treatment of Fractures. With Notes upon a Few Common Dislocations. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital; Lecturer on Surgery in the Harvard University Medical School. Sixth edition, thoroughly revised and enlarged. Price 24s. net.

A Text-book of Surgical Anatomy. By William Francis Campbell, M.D., Brooklyn, New York, Professor of Anatomy, Long Island College Hospital, Attending Surgeon to the Methodist Episcopal, Swedish, and Bushwick Hospitals; Consulting Surgeon to the Jamaica *Hospital*. *Price* 21s. net.

The Care of the Baby. A Manual for Mothers and Nurses. By J. P. Crozer Griffith, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; *Physician to the* Children's Hospital; Consulting Physician to St. Christopher's Hospital for Children. Fourth edition, thoroughly revised. Price 6s. 6d. net.

WILEY, JOHN, AND SONS, New York. (CHAPMAN AND HALL, LIMITED, London.)

Elements of Water Bacteriology. With Special Reference to Sanitary Water Analysis. By Samuel Cate Prescott, Assistant *Professor of Industrial Biology*, and Charles — Edward Amory Winslow, Assistant Professor of Sanitary Biology in the Massachusetts Institute of Technology. Second edition, rewritten. First thousand. Price, cloth, $1.50 or 6s. 6d. net.

Typhoid Fever, its Causation, Transmission, and Prevention. By George C. Whipple, Consulting Engineer. With an Introductory Essay by William T. Sedgwick, *Professor* of Biology, Massachusetts Institute of Technology. First edition. First thousand. Price, cloth, $3.00 net or 12s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BIBBY, J. P., M.B., Ch.B. Leeds, has been appointed House Surgeon at the General Infirmary, Leeds.

BUTLER-SMYTHE, A. C., F.R.C.S. Edin., has been appointed Surgeon to In-patients at the Samaritan Free Hospital for Women, London.

CAMPBELL, R. B., M.B., C.M. Edin., has been appointed Medical Superintendent of the Larbert Asylum.

COLLIS, EDGAR LEIGH, M.B., B.Ch. Oxon., has been appointed an Inspector for the purposes of the Factory and Workshop Act, 1901, with the title of Medical Inspector of Factories.

D'ALTON, J., L.R.C.P. & S. Irel., has been appointed Medical Officer to the Birr Board of Guardians.

DIBB, W. L., M.B., Ch.B. Leeds, has been appointed Resident Medical Officer at the Semi-convalescent Hospitals in connexion with the General Infirmary, Leeds.

FREMANTLE, F. E., M.B., M.Ch., F.R.C.S. Eng., D.P.H., has been appointed Medical Officer of Health to the Hertfordshire County Council.

HAMILTON, ROBERT J., F.R.C.S. Edin., M.R.C.S., has been appointed Honorary Consulting Ophthalmic Surgeon to the Royal Southern Hospital, Liverpool.

JERMAN, A. E., M.B. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Erith District of the county of Kent.

KEEP, A. CORRIE, M.D., M.C. Edin., has been appointed Surgeon to In-patients at the Samaritan Free *Hospital for* Women, London.

LISTER, T. E., M.B., Ch.B. Vict., has been appointed Resident Obstetric Officer at the General Infirmary, Leeds.

MCCAUL, B., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Carrickmacross District of the county of Monaghan.

MORISON, F. H., M.D., C.M. Edin., D.P.H., has been appointed Medical Officer of Health to the Cumberland County Council.

MUIR, J., M.D., M.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Bellshill District of the county of Lanark.

MURRAY, J., M.B., B.S. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Llandrindod Wells District of the county of Radnor.

PICKLES, P. D., has been appointed House Physician at the General Infirmary, Leeds.

POSTLETHWAITE, JOSEPH M., M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon at the Blackburn and East Lancashire Infirmary.

SCARGILL, H. B., M.B., B.S. Lond., has been appointed House Physician at the General Infirmary, Leeds.

TEBBS, B. N., M.D. Cantab., has been appointed Assistant Physician to the Royal South Hants and Southampton Hospital.

TWINING, VINCENT WING, M.B., C.M. Aberd., has been appointed Medical Officer of Health of the Salcombe (Devon) Urban District.

WILLIAMSON, W., has been appointed Ophthalmic House Surgeon at the General Infirmary, Leeds.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ALBERT DOCK HOSPITAL, Connaught-road, E.—Senior House Surgeon and Registrar. Salary £100 per annum, with board, residence, and washing. Also House Surgeon. Salary £50 per annum, with board, residence, and washing.

BANGOR, CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House Surgeon. Salary £80 per annum, with board, washing, and lodging.

BIRMINGHAM, CITY OF, EDUCATION COMMITTEE.—Medical Superintendent. Salary £500 per annum. Also Medical Officer. Salary £250 per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, &c.

BOOTLE, COUNTY BOROUGH OF.—School Medical Officer. Salary £250 per annum.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Assistant Resident Medical Officer for three months. Salary 25 guineas, with board, residence, and washing. Also Second Honorary Anæsthetist.

BRISTOL GENERAL HOSPITAL.—Assistant House Physician. Salary £60, with board, residence, &c.

CARDIFF INFIRMARY.—Senior Resident Medical Officer. Salary £120 per annum, with board, washing, and apartments. Also House Surgeon for six months. Salary £30, with board, residence, and laundry. Also House Surgeon for Ophthalmic and Ear and Throat Departments for six months. Salary £30, with board, residence, and laundry.

CARMARTHEN, JOINT COUNTIES LUNATIC ASYLUM.—Second Assistant Medical Officer. Salary £160, increasing to £180, with board, lodging, washing, and attendance.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant for three months.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £60 per annum, with rooms, board, washing, and attendance.

DARLINGTON BOROUGH EDUCATION COMMITTEE.—Medical Officer. Salary £200 per annum.

DRIFFIELD UNION.—Medical Officer and Public Vaccinator. Salary £48 per annum, and fees.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £40 per annum, with board and lodging.

DURHAM, COUNTY COUNCIL OF.—Assistant County Medical Officer of Health. Salary £300 per annum, rising to £400.

EDINBURGH, CITY OF.—Medical Officer of Health. Salary not less than £800 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging, and washing.

GLOSSOP, BOROUGH OF, EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £80 per annum.

GORDON HOSPITAL, Vauxhall Bridge-road, S.W.—Resident House Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL AND SCULCOATES DISPENSARY.—Medical Officer. Salary £210 per annum net.

INDIAN MEDICAL SERVICE.—Examination for 20 Commissions.

INVERNESS DISTRICT ASYLUM.—Medical Superintendent. Salary £500, with house, fire, light, vegetables, &c.

KING'S COLLEGE (UNIVERSITY OF LONDON).—Sambrooke Medical Registrar.

KING'S COLLEGE HOSPITAL.—House Anæsthetist.

LANCASTER, ROYAL LANCASTER INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LEEDS GENERAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing. Also Resident Ophthalmic Officer. Salary £100 per annum, with board, residence, and washing.

LEEDS, UNIVERSITY OF, SCHOOL OF MEDICINE.—Professor of Therapeutics.

LEICESTER INFIRMARY.—House Physician. Salary at rate of £100 per annum, with board, lodging, and washing.

LONDON COUNTY COUNCIL.—Medical Officer in District No. 3 and District No. 11.

METROPOLITAN ASYLUMS BOARD.—Fever Hospitals Service: Assistant Medical Officers, unmarried. Salary £180, rising to £240, with board, lodging, and washing. Darenth Asylum, Industrial Colony and Training School: Third Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £170, with rations, lodging, attendance, and washing.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Grafton-street, Fitzroy-square, W.—Two Senior Clinical Assistants.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Senior and Junior House Surgeons. Salary of former at rate of £100 per annum and of latter at rate of £80 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Assistant Resident Medical Officer at Northwood. Salary £50 per annum, with board and residence.

NORTHAMPTON GENERAL HOSPITAL.—Two Honorary Anæsthetists.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Third Resident Medical Officer. Salary £60 per annum, with board, residence, and laundry.

ORKNEY, PAPA WESTRAY PARISH COUNCIL.—Medical Officer and Public Vaccinator (female). Salary £85 per annum, with fees.

ROYAL EAR HOSPITAL, Dean-street, Soho.—House Surgeon. Salary £40 per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Assistant Physician for Diseases of Women (female).

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, Strand, W.C.—House Surgeon for six months. Salary £25, with board, residence, and laundry. Also Clinical Assistants for six months.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, West Brompton, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and laundry.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £60 per annum, with rooms, board, and washing.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Junior House Surgeon. Salary £50 per annum, with board, apartments, and washing.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

WAKEFIELD, CLAYTON HOSPITAL.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

WARRINGTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £150 per annum, with board and residence.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Locum Tenens Medical Officer, unmarried. Salary four guineas per week, with apartments, board, attendance, and washing.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, &c.

WEST LONDON HOSPITAL, Hammersmith, W.—House Physician for six months. Board, lodging, and laundry.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

WIGAN INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with apartments and rations.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board, lodging, and laundry. Also House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

YORKSHIRE, WEST RIDING COUNTY COUNCIL.—Ten Medical Inspectors. Salary £300 a year.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Leatherhead, in the county of Surrey; at Dumbarton, in the county of Dumbarton; and at Nottingham (East), in the county of Nottingham.—The Secretary of State gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of Forfar.

Births, Marriages, and Deaths.

BIRTHS.

FRASER.—On May 6th, at Travenna, Slough, the wife of Herbert Fraser, M.R.C.S., L.R.C.P., of a daughter.

HEARDER.—On May 5th, at Morven, Ilkley, Yorkshire, the wife of T. Browne Hearder, M.B., C.M., of a daughter.

MATTHEW.—On May 5th, at St. Ives, Cornwall, the wife of F. Crichton Matthew, M.D., F.R.C.S. Edin., of a son.

MARRIAGE.

VINING—COLMAN.—On May 9th, at St. Matthew's, Ealing Common, Charles Wilfred Vining, M.B., B.S. Lond., to Marjorie Gladys, eldest daughter of the late Charles Colman and Mrs. Colman.

DEATHS.

CULLINGWORTH.—On May 11th, at Manchester-square, W., Charles James Cullingworth, M.D., F.R.C.P., in his 67th year.

DUKA.—On May 5th, at Bournemouth, Theodore Duka, M.D., F.R.C.S., Knight of the Iron Crown, Lieutenant-Colonel, I.M.S., retired, late H.E.I.C.S., in his 83rd year.

HOETS.—On May 7th, at Sydney, N.S.W., Alton Kingsley Hoets, M.R.C.S. Eng., L.S.A., aged 51 years.

RUSSELL.—On May 10th, at Guildford, after a short illness, Francis Rutherfurd Russell, M.D., aged 55 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

JUSTICES AND THE ADULTERATION OF MILK.

THERE is not much encouragement to those intrusted with the carrying out of the provisions of the Sale of Food and Drugs Act to find that on the slightest technical ground cases of adulteration taken before the magistrates are dismissed, or, if not thrown out, are met with fines totally inadequate to the seriousness of the offence. Attention was called in THE LANCET at the end of last year (Dec. 7th, 1907, p. 1632) to the threat of the Sale of Foods and Drugs Act committee of the West Sussex County Council to withdraw from its labours unless it was supported by the infliction of adequate penalties by the justices in cases of adulteration. But the publicity which was given to the matter at the time does not appear to have had much effect upon the justices, inasmuch as the committee in its next report, which was submitted to the county council at its meeting at Horsham on May 8th, remarked: "The committee again desired to draw to the attention of the county council that the success of their labours depended very largely upon the infliction of adequate penalties by the justices of the county in cases of conviction of adulteration under the Sale of Foods and Drugs Act." The penalties inflicted for adulterated cocoa were those complained of six months ago, but in the present report the article of diet was milk of which the county analyst, Dr. Otto Hehner, had reported "a very high percentage of adulteration, no less than 25·5 per cent. of the milk samples analysed being adulterated." During the past quarter 34 samples of milk were submitted for analysis, and out of that number 11 were declared to be adulterated. There were prosecutions in seven cases, and of these seven two were dismissed on technical grounds, two were dismissed because the adulteration, in the opinion of the justices, was so small (9 and 13 per cent. respectively of added water), in one case there was a penalty of £5 and costs, and in another case a penalty of £2 2s. and costs. These penalties were no deterrent because three weeks later the same defendants were summoned again for selling adulterated milk, and while Mr. Wilberforce, the chairman of the committee, did not state what happened in these cases he complained bitterly that the same notice of prosecutions of that kind was not taken as in other places. He was probably referring to the recent fines in other parts of the country of £50, £100, and even imprisonment. Although himself a magistrate for West Sussex, Mr. Wilberforce spoke very strongly upon the matter and appealed for adequate and efficient penalties. Naturally, owing to the fact that the majority of the members of the county council are magistrates there was some objection to Mr. Wilberforce's caustic criticism, it being held that the magistrates, like judges, must not be attacked upon their decisions. But the fact cannot be disputed that to adulterate milk is a fraud upon the public and should be adjudicated upon by the justices as a case of fraud, irrespectively of who the defendant may be. Many cases before West Sussex justices could be cited showing the imposition of far more rigorous penalties inflicted for offences much less serious than the adulteration of foodstuffs. The justices should look upon these cases as charges of obtaining money by false pretences, which is, if not in the eyes of the law, the same thing as selling milk and water as milk. There seems to be very good ground, as was hinted at during the council meeting, for petitioning the Lord Chancellor to put justices on the benches who will see that the law is properly administered, particularly so when the chief constable passes over cases of adulteration, "knowing pretty well what the tone of our benches is" (the words in inverted commas are those actually used by Mr. Wilberforce), and that it was hopeless to institute a prosecution.

STRANGE DEATH OF AN EPILEPTIC.

AN inquest was held at Whipsnade on April 11th by the deputy-coroner for Bedfordshire to inquire into the circumstances of the death of a Dunstable publican, aged 41 years, whose body was found lying in a field near Whipsnade in a completely nude state on the morning of April 10th. It appeared from the evidence that for some years the deceased had been subject to "fits" and that on one occasion he had "strayed away and did not come home until three o'clock in the morning." The death of his wife last September greatly disturbed him and to the knowledge of one of the witnesses, a man named Green, who was his sole assistant, he had since then had four fits which set in suddenly causing him to "fall down like a stone." Green said that he did not cry out on these occasions but that once on recovering from a fit he complained of a sore tongue. The deceased never drank to excess either before or after the death of his wife. On April 7th he had a fit in the morning. Green saw him in it; he was lying in bed with blood coming from his mouth. On the 9th he ate a hearty dinner at noon. After dinner Green went to some races, returning at about 7 P.M., when he found that the cellar work had been done during his absence and that the deceased was not at home. A letter addressed to his brother in London was lying on the table in the parlour, and during the afternoon he had sent one of his children with a telegram which was also intended for his brother. Another witness named Mead said that on the 9th at about 6.45 P.M. the deceased asked him to mind the place as he had to go out on business of importance. He then left, taking a footpath which led to the Downs. A farmer living at Whipsnade said that about 8 A.M. on the 10th he found the naked body of a man in a field where there was no footpath and the clothing was lying scattered about not far off. He at once informed a police-constable who stated in evidence that he saw the body of the deceased in the field; it was naked and quite cold and stiff, lying in the prone position with the head resting on the right arm. About three yards from the body there was a quantity of clothing and some 150 yards distant near a hedge he found two socks and a boot. A medical man who attended the inquest said that he had examined the body which was then lying as described by the constable. The teeth were clenched on the tongue, which was bitten, and there were blood and froth on the tongue. There were no marks of violence except a slight abrasion on one elbow. The history of the case was one of epilepsy, going back for two years. Under the influence of these fits the man would be for the time insane and this would account for his stripping off his clothing. He attributed death to suffocation, owing to the deceased having fallen with his face resting on his arm, a view with which the jury unanimously concurred. The letter which the deceased left for his brother did not cast any light on the subsequent occurrences.

"REMARKABLE TESTIMONY."

WE extract from the advertisement columns of the *News of the World* of Sunday, May 10th, the following, which is described by our contemporary—with whom we agree—as remarkable testimony:—

> "Dr. Chas. Forshaw, M.D., Ph.D., F.R.M.S., F.C.S., D.Sc., the eminent scientist and litterateur, of Baltimore House, Bradford, Yorks, Editor of Yorkshire Notes and Queries, etc., makes the following laudatory remarks about the safety, purity, and efficacy of Dr. Cassell's Tablets.
>
> "Dr. Forshaw says:—'I have thoroughly tested, both scientifically and practically, the preparation known as Dr. Cassell's Tablets, and can conscientiously recommend it as an eminently safe and effective remedy for all forms of nerve and bodily weakness. My knowledge of Dr. Cassell's Tablets leads me to the opinion that the ingredients employed in their composition form a unique synthesis, the whole combining to form what I consider to be a remarkably potential medicine, quite safe for young and old, in cases of nervous prostration, debility, anæmia, loss of flesh, malnutrition, children's weakness, spinal and nerve paralysis, and many forms of stomach and kidney troubles. I read they can be taken by stout people as well as thin without fear of increase of adipose tissue, and from their composition I should consider this to be the case.
>
> "'I have never before testified to a patent medicine, but now take pleasure in the interest of science and humanity, in making the above statements.'
>
> "Dr. Cassell's Tablets can be obtained for 10½d., 1/1½ and 2/9 (containing nearly four times the 10½d. size), of all chemists. Advt."

Mr. Forshaw is a dentist who lives, according to the Dentists Register, at Hustler Terrace, Bradford, and his wealth of American degrees has received some comment in THE LANCET. Having been in dental practice before July 22nd, 1878, his name is included in the Dentists Register, but if he is going to recommend in the lay press an "effective remedy for all forms of nerve and bodily weakness" the General Medical Council may consider his inclusion among official dental practitioners.

THE INTERMEDIATE EXAMINATION FOR THE DEGREE OF M.B. LOND.

To the Editor of THE LANCET.

SIR,—Anyone comparing the time, work, and knowledge required to pass the Intermediate M.B. Lond. (especially in honours) with the same for an ordinary pass B.Sc. must acknowledge that those who have obtained the former are as fairly entitled to a graduation in science as are the latter. I would therefore urge through you the claims of those who pass the Int. M.B. Lond. with honours to the B.Sc. degree, especially seeing that that degree can now be obtained for one branch of science, such as engineering or chemistry, &c. It would considerably enhance (and legitimately so considering the extra exertions required) the value of the M.B. degree itself and would be a consolation, as well as advantageous in after life, to those who like myself have from family or other reasons prevailing at the time been prevented from proceeding to the final M.B. After devoting such time and energy it is disappointing to have nothing to show for them, especially when, as in my case, not even the Medical Directory, in spite of repeated intimations, will insert the fact.

I am, Sir, yours faithfully,
INT. M.B. LOND. (HONOURS).

SPIGELIA: A CASE OF MISTAKEN IDENTITY.

ONE of the most remarkable instances of the substitution of a drug by others is afforded by spigelia or pink-root which formerly was esteemed as an anthelmintic. In Bulletin No. 100 of the United States Bureau of Plant Industry Mr. W. W. Stockberger shows that for many years almost the whole of the so-called pink-root that has been employed in medicine has been derived from entirely different plants of doubtful efficacy which have masqueraded as pink-root. True pink-root is the product of Spigelia marilandica and Spigelia anthelmia, plants which were largely used by the native inhabitants of the southern United States and later by the British colonists who introduced them into Europe, where they were cultivated. As pink-root gained a wider reputation as an anthelmintic other plants were substituted for it, particularly a species of ruellia, with the result that unfavourable accounts of its action brought the drug into disrepute. This substitution became more prevalent when the Civil War cut off all southern supplies of the true drug. In its place the collectors usually supplied the roots of a species of ruellia. As time went on various adulterants of pink-root came to be regarded as genuine, so much so, indeed, that they have been described as such by various writers of text-books on materia medica. The fact that ruellia has so largely supplanted the true drug as to be studied pharmacologically and described in medical and botanical works shows that in the majority of cases in which the adulterant was present it was not detected. *Fortunately, ruellia does not appear to* possess a marked physiological action.

COMPOUND LIQUORICE POWDER.

THE compound liquorice powder of the Pharmacopœia is objected to by some medical men in the case of persons affected with diabetes, obesity, gout, and some other diseases. Two-thirds of the powder consists of the sweet substances, sugar and liquorice, of which the former unduly increases the bulk of the preparation without materially increasing its therapeutic efficiency. Attempts have been made to improve the powder by omitting the sugar, thus reducing the dose by one-half, but the product is not readily miscible with water. In the *Pharmaceutical Journal* of March 28th the late Dr. A. J. Balmanno Squire suggested the replacement of both sugar and liquorice by powdered sweet almonds and gum acacia. The suggested preparation contains senna, two parts; fennel and sulphur, of each one part; and eight parts of a powder containing almonds and gum acacia in the proportion of eight parts to one. The omission of liquorice is unfortunate since the preparation is named after that ingredient. It would seem to be more reasonable to retain the liquorice, which at the most does not contain more than 7·5 per cent. of the sweet principle glycyrrhizin, and to add a suitable mixture of gum and saccharin to render the powder miscible with water and to impart a sweet taste. Such a product would gain in palatability by reason of its smaller dose.

◆

Medical Referee.—We do not approve of the departure of the insurance company, though we do not think that undertaking the work would consequently become exactly unethical.

F. E. H.—Assuming the facts to be as stated, our correspondent has been treated in an unneighbourly manner. We doubt, however, whether the General Medical Council would consider such conduct censurable.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—A. Whitfield, E. G. Graham Little): at 5 P.M.

Cases:

Dr. Radcliffe-Crocker: (1) Mycosis Fungoides (private); (2) Case for Diagnosis (private).

Dr. Adamson: (1) Nodular "Ringed Eruption" (Granuloma Annulare); (2) Small Follicular Syphilide.

Dr. Whitfield: A Case of Disseminated Lupus with Chronic Lymphangitis of the Face and Osteo-arthritis.

Dr. Sequeira: Two Cases of Sclerodermia.

Dr. Parkes Weber: ? Multiple Xanthoma of the Face of the Diabetic Type in an Infant.

Dr. Graham Little: (1) Varus Nodulosis (Brooke); (2) Pseudo-pelade (Brocq); (3) Pseudo-xanthoma Elasticum.

FRIDAY.

EPIDEMIOLOGICAL SECTION (Hon. Secretaries—W. H. Hamer, G. S. Buchanan): at 8 30 P.M.

Paper:

Sir Frederick Treves, Bart., G.C.V.O.: Preventive Medicine in Panama.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretary—Reginald Morton): at 8.30 P.M.
(In the Rooms of the Royal Philosophical Society, 207, Bath-street, *Glasgow.*)

Papers:

Dr. H. Lewis Jones: Instantaneous X Ray Photography.

Dr. Dawson Turner: "Some Reflections based upon the Work done in the Electrical Department of the *Royal Infirmary,* Edinburgh.

Dr. Samuel Sloan: Ionic Medication in the Treatment of Some Obstinate Cases of Pelvic Disease in Women.

Exhibition of Electrical Apparatus (in the same place from 3 P.M. till 10.30 P.M.).

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Conversazione. Presentation of the Fothergillian Medal to Sir A. E. Wright, M.D. Annual Oration:—Mr. C. Dent: The After-results of Injuries.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—5 P.M., Wightman Lecture:—Mr. W. Cheyne: On the Defensive Arrangements of the Body as Illustrated by the Incidence of Disease in Children and Adults.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY, Harrogate.

SATURDAY.—Meeting.

MEDICO-LEGAL SOCIETY, 22, Albemarle-street, W.

TUESDAY.—8.15 P.M., Narration of Cases and Exhibits of Medico-Legal Interest. Mr. J. H. Evans: The Medico-Legal Significance of Gonorrhœa.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. Galloway: Clinique (Skin). 5.15 P.M., Lecture: Dr. B. Abrahams: Modern Views on Rheumatoid Arthritis (with lantern slides).

TUESDAY.—4 P.M., Dr. C. O. Hawthorne: Clinique (Medical). 5.15 P.M., Lecture:—Mr. F. C. Wallis: Fistula in Ano.

WEDNESDAY.—4 P.M., Mr. P. J. Freyer: Clinique (Surgical). 5.15 P.M., Lecture: Mr. A. H. Tubby: Surgical Diseases of Children.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. T. G. Stewart: Syphilitic Affections of the Spinal Cord.

FRIDAY.—4 P.M., Dr. StClair Thomson: Clinique (Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—*Dr. Robinson: Gynæcology.*

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. 2.15 P.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Low: Insects as Carriers of Disease.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 12 15 P.M.: Lecture:—Dr. Pritchard: *Practical Medicine.* 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases *of Women. 5 P.M., Lecture:*—Dr. Beddard: Medicine.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Baldwin: *Practical Surgery.*

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.15., P M., Dr. Davis: *Diseases of the Throat, Nose, and Ear.* 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. K. Scott: Emergency Operations in Eye Affections.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children, 2 P.M., Medical and Surgical Clinics X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Medical Out-patient (Dr. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. Whiting).

TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Clinics:—Surgical (Mr. Edmunds); Gynæcological (Dr. Giles). 4.30 P.M., Special Demonstration of Selected Medical Cases (Dr. R. M. Leslie).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (*Dr. Whipham*); Skin (Dr. Meachen); Eye (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations. (*Dr. Giles*). Clinics:—Medical Out-patient (Dr. Whiting); Surgical (Mr. Carson); X Rays. 3 P.M., Medical In-patient (Dr. Chappel). 4.30 P.M., Throat Operations (Mr. Carson).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). *Clinics:*—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie). 4.30 P.M., Special Demonstration of Selected Eye Cases (Mr. Brooks).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Mr. L. A. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye. 2.15 P.M., Special Lecture:—Dr. F. Taylor: Emphysema of the Lungs.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: *Surgery.* 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. McGavin: Acute Inflammation in Long Bones.

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Lecture :—Mr. Sargent: Cerebral Abscess.

FRIDAY.—3.30 P.M., Lecture :—Dr. J. Taylor: Sclerotic Diseases of Cord.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, 7, Fitzroy-square, W.

THURSDAY.—5 P.M., Lecture :—Sir William Allchin: Some Interrelations of Thoracic and Abdominal Disease.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture :—Dr. Poynton: Pyo-pericarditis.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), West London (2.30 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) *do not* reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are :—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 14th, 1903.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 8	29.85	S.W.	0.07	75	59	53	54	56	Overcast
" 9	29.76	W.	...	122	63	55	55	58	Cloudy
" 10	29.83	S.W.	...	102	62	45	51	55	Cloudy
" 11	29.93	S.E.	...	106	62	47	52	54	Fine
" 12	29.81	S.W.	0.27	109	65	49	53	55	Fine
" 13	29.74	S.W.	...	112	60	47	49	54	Fine
" 14	29.64	S.	...	74	54	47	50	53	Cloudy

During the week marked copies of the following newspapers have been received:—*Yorkshire Post, Glasgow Herald, Wimbledon Gazette, Times, Public Opinion, Newcastle Daily Chronicle, Wimbledon Boro' News, Worcester Times, Pall Mall Gazette, Science Siftings, Cork Constitution, Daily Chronicle, Sheffield Weekly Telegraph, Daily Telegraph, Liverpool Mercury, Lincoln Echo, Daily News, Star, Morning Advertiser, East Anglian Times, Sanitary Record, Manchester Chronicle, &c.*

Communications, Letters, &c., have been received from—

A.—Ardath Tobacco Co., Lond.; Messrs. Adlard and Son, Lond.; Aerators, Lond., Manager of; Messrs. R. Anderson and Co., Lond.; Association of Scottish Medical Diplomates, Lond., Hon. Secretary of.

B.—Mr. *B. S. Browne, Alcester*; Dr. F. G. Bushnell, Brighton; Dr. R. H. Bakewell, Onehunga; Mr. W. Berry, Wigan; Bedford County Council, Clerk to the; Bradford Education Committee, Secretary of; Messrs. Bretano's, Paris; Blackburn and East Lancashire Infirmary, Secretary of; Mr. E. Baker, Birmingham; Bootle Education Committee, Secretary of; Bovril, Lond., Secretary of; Dr. J. Linton Bogle, Lago Maggiore; Mr. T. Bell, Lancaster; Messrs. Blundell and Rigby, Lond.; Messrs. J. B. Brooks and Co., Birmingham; The Bayer Co., Lond., Secretary of; Messrs. Baylis, Lewis, and Co., Worcester; Mr. J. F. Briscoe, Alton; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. P. B. Burgoyne and Co., Lond.; British Balneological and Climatological Society, Lond., Hon. Secretary of.

C.—Dr. R. Connihan, Kilrush; Dr. R. A. Campbell, Gloucester; Messrs. Cassell and Co., Lond.; Cardiff Infirmary, Secretary of; Mr. J. W. Cleveland, St. Albans; Coventry and Warwickshire Hos*pital, Secretary of; Cardiff City* Mental Hospital, Whitchurch, Clerk to the; Continental Tyre and Rubber Co., Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy; Dr. C. H. Cattle, Nottingham; Mr. Thomas Clegg, Lond.

D.—Dr. Edwin T. H. Davies, Lond.; Mr. Hughes R. Davies, Woodford Green; *Durham* County Council, Clerk to the; Derbyshire Royal Infirmary, *Derby, Secretary of; Messrs.* Duncan, Flockhart and Co., Edinburgh; Dr. A. Duncan, Glasgow; *Lady Dimsdale, Lond.*

E.—Messrs. Elliott and Fry, Lond.; Ear-Drum Vibrator Co., Lond.; Dr. J. Eyre, Lond.; Messrs. Elliott, Son, and Boyton, Lond.

F.—Dr. G. Faris, Woolwich; Mr. W. E. Franklin, Newcastle-on-Tyne; Messrs. Fromy, Rogée, and Co., St. Jean D'Angély, France; Fermanagh County Hospital, Enniskillen, Secretary of.

G.—Messrs. R. W. Greeff and Co., Lond.; Messrs. W. Green and Sons, Edinburgh; Dr. W. Herbert Gregory, Beverley; Mr. F. C. Gardner, Manor Park; Messrs. Grindlay, Groom, and Co., Bombay.

H.—Dr. W. W. Hardwicke, Lond.; Dr. F. de Havilland Hall, Lond.; Mr. John Heywood, Manchester; Mr. Noel A. Humphreys, Surbiton; Major A. Hodson, I.M.S., Rajkot, India; Hull Advertising Agency, Manager of; Dr. W. D. Haggard, Nashville, U.S.A.; H. C.

I.—Miss Inge, Haslemere; Dr. W. W. Ireland, Musselburgh; Incorporated Institute of Hygiene, Lond.

J.—Messrs. Jones Bros., Bristol; Joint Counties Lunatic Asylum, Carmarthen, Medical Superintendent of; J. S. M.

K.—Messrs. Kutnow and Co., Lond.; K. L. S.; Messrs. R. A. Knight and Co., Lond.; Dr. Kjer-Petersen, Copenhagen.

L.—Mr. *H. K. Lewis, Lond.*; Mr. J. F. Lehmann, Munich; Mr. Edward Linstead, Lond.; *Dr. A. H. N. Lewers, Lond.*; Leeds University, Registrar of; Messrs. Luzac and Co., Lond.; *Lindsey County Council Education* Committee, Secretary of; Colonel Lambkin, R.A.M.C., *Lond.; Messrs Longmans, Green,* and Co., Lond.; La Reclama Cuba Factory, New York, *Manager of; Lancashire County* Asylum, Winwick, Clerk to the; Bishop of Lahore, Killiney, co. Dublin.

M.—Mr. Gordon M. Montgomery, Dorchester; Medical Referee; *Mr. J. C. Muir, Lond.*; Surgeon-General J. A. Marston, Lond.; Mr. E. W. Marshall, Manchester; *Messrs. Methuen and Co., Lond.*; Mr. A. Ernest Maylard, Glasgow; Mr. J. F. Mackenzie, Edinburgh; *Maltine* Manufacturing Co., Lond.; Metropolitan Ear, Nose, and Throat Hospital, Lond., Secretary of; Dr. L. W. Darra Mair, Leeds.

N.—Mr. H. A. E. Noble, Lond.; Newport and Monmouthshire Hospital, Secretary of; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.; *North Queensland Herald*, London Correspondent of.

O.—Odol Chemical Co., Lond.

P.—Dr. J. J. Perkins, Lond.; Mr. George C. Peachey, Lond.; Mr. *Walter Pearce, Thame*; *The Prescriber*, Edinburgh, Manager of; P. H. S., Mr. W. T. Pearson, Southend; Messrs. Peacock and Hadley, Lond.

R.—Dr. F. W. Forbes Ross, Lond.; Royal National Orthopædic Hospital, Secretary of; Royal Mail Steam Packet Co., Lond., Secretary of; Royal College of Physicians, Edinburgh, Secretary of; Royal Society of Medicine, Otological Section, Lond., Hon. Secretary of; *Messrs. Robertson* and Scott, Edinburgh; Royal South Hants and Southampton Hospital, Secretary of; *Major* E. H. Richardson, Lond.; Messrs. Reynolds and Branson, Leeds; *Messrs. Rebman, Lond.*

S.—Sir W. J. Sinclair, Manchester; Messrs. Siemens Bros. and Co., Lond.; *Sheffield Education Committee*, Secretary of; Dr. S. G. Scott, Leeds; Messrs. *Spottiswoode, Dixon, and Hunting*, Lond.; Mr. W. H. Soady, Dublin; Dr. W. C. Sullivan, Lond.; *Messrs. Spottiswoode and Co.*, Lond.; Mr. D. H. Shuttleworth-Brown, Lond., Mr. Hugh Stott, Lewes; *Mr. Charles Symonds*, Lond.; Dr. E. C. Seaton, Lond.; Messrs. G. Street and Co., Lond.; Scholastic, Clerical, &c., Association, Lond.; Stepney Spare Motor Wheel, Llanelly, Secretary of; *Star Engineering Co., Wolverhampton.*

T.—Mr. M. A. Teale, Leeds; Dr. E. Tiessen, Friedenau; Mr. E. Townshend, Birmingham; Mr. G. N. W. Thomas, Keynsham.

U.—*University College, Lond.*, Secretary of.

V.—Messrs. Voigt and Co., Lond.; Staff-Surgeon A. H. H. Vizard, R.N., Ireland Island.

W.—Dr. W. H. Willcox, Lond.; The Earl of Wemyss, Lond.; West Riding County Council, Wakefield, Clerk to the; Warrington Corporation, Clerk to the; Wolverhampton General Hospital, Secretary of; Wigan Infirmary, Secretary of; Dr. Tucker Wise, Lond.; Mr. E. H. Worth, Lond.; Wye House, Buxton, Medical Superintendent of; W. R. D.; Mr. P. Williams, Bridgwater; Dr. V. Wanostrocht, Leamington; Worcestershire County Council, Worcester, Stationery Clerk of; Dr. W. N. W. Watson, Birmingham; Messrs. Willing, Lond.

Y.—Dr. Eugene S. Yonge, Manchester.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. W. Allingham, Delabole; *Messrs. Allen and Hanburys*, Lond.; A. A.; A. M.; A. E. G.; A. B.; Accrington Corporation, *Accountant to the*; Messrs. C. Ash, Sons, and Co., Lond.

B.—Mr. F. H. Botterill, Harrogate; *Messrs. J. H. Booty and* Son, Lond.; Bury Corporation, Accountant to the; Bishopstone House, Bedford, Secretary of; Bethel Hospital, Norwich, Clerk to the; Bailbrook House, Bath, *Medical Superintendent of*; Mr. H. Butterfield, Northampton; Birmingham and Midland Ear and *Throat Hospital, Secretary* of; Bristol Royal Infirmary, Secretary of; Bedfordshire *County Council Education Com*mittee, Clerk to the.

C.—Mr. H. Croft, Longford; Dr. A. G. R. Cameron, Worthing; Cheltenham Corporation, Accountant to the; Messrs. Samson Clark and Co., Lond.

D.—Messrs. Dowie and Marshall, Lond.; David Lewis Northern Hospital, *Liverpool*, Secretary of; Devonshire Library, Buxton, Manager of; David Lewis Epi*leptic Colony*, Manchester, Secretary of; Dalrymple House, Rick*mansworth, Medical Superin*tendent of; *Dr. W. T. Dougal*, Pittenweem.

E.—Mr. J. Evans, St. Tudy; *Dr. O. J. Evans, Pwllheli*; Mr. F. G. Ernst, Lond.; E. B. G.; Dr. D. Eakin, Carrickmacross; E. B. L.

F.—Mr. F. E. Forward, Lond.; Dr. F. D. Fisher, Little Sutton; *Messrs. Fuller, Moon, and Fuller*, Croydon; Mr. M. Fischel, Lond.; Mr. F. T. Fagge, Llanfairfechan; Messrs. H. Frowde and Hodder and Stoughton, Lond.; F. J. H.

G.—Mr. J. Garman, Ashford; *Messrs. Greening and Co., Lond.*

H.—Dr. T. B. Hearder, Ilkley; Dr. C. Heaton, Westgate-on-Sea; Messrs. *J. Haddon and Co.*, Lond.; H. K.; Lieutenant A. C. Hall, R.N., Portsmouth; Mr. *J. Hourston, Papa Westray*; Mr. F. E. Heubeck, Cwmaman; H. P. M.

J.—Mr. E. O. Jones, Talysarn; *Mr. Johnson, Lond.*; J. F. R.; J. H.; J. J.; J. F. W.; J. H., Finsbury Park.

K.—Messrs. Knapp, Drewett, and Sons, Kingston-on-Thames.

L.—Locum, Leicester; L. W. H. J.; *Leyton Urban District Council*, Accountant to the; Mr. S. Lee, Exeter.

M.—Mr. *D. Macdonald, Cilfynydd*; Dr. A. Morison, Lond.; Messrs. Menzies and Co., Edinburgh; *Mr. R. Mosse, Berlin*; M. A. D.; Mr. J. M. Mangan, Ennis.

N.—Messrs. News Bros., Cork; National Provident Institution, Lond., Assistant Secretary of; North Staffordshire Infirmary, Stoke-on-*Trent, Secretary of*; N. J. N. J.

O.—Mr. F. A. Osborn, Dover.

P.—Mr. *P. W. Power*, Oldham; Mr. J. Palmer, Snodland; Plympton House, Plymouth, Medical Secretary of.

R.—Mr. M. J. Ryan, Bolton; Rotherham Hospital, Secretary of; Miss Rawlins, Bray; Rover Co., Coventry; Royal National Sanatorium, Bournemouth, Sec*retary of*; "Rex," Barnes.

S.—Dr. F. M. Sandwith, Lond.; *Sheffield* Children's Hospital, Secretary of; Mr. R. J. L. Sladen, Bhusaval, India; Messrs. R. Sumner and Co., Liverpool; *Messrs. Sykes*, Josephine, and Co., Lond.; Stirling Royal Infirmary, Secretary of; *South Wales Argus*, Newport, Manager of; Scarborough *Hospital*, Hon. Secretary of; Sheffield Royal Hospital, Secretary of; S. D. S.; Dr. R. Stockman, Glasgow; Dr. T. D. Savill, Lond.

T.—Mr. J. W. Thompson, Liverpool; Tiverton Infirmary, Matron of.

W.—Mr. M. Watson, Gourock; Western General Dispensary, Lond., Secretary of; Messrs. *Wheatley*, Dyson, and Son, Huddersfield; W. E. T.; *Mr.* W. Thomson Walker, Lond.; Dr. J. W. A. Wilson, Blaengarw; Messrs. H. Wilson and Son, Lond.; W. P. F.

EVERY FRIDAY. THE LANCET. PRICE SEVENPENCE.

SUBSCRIPTION, *POST FREE.*

FOR THE UNITED KINGDOM.			
One Year	£1	12	6
Six Months	0	16	3
Three Months	0	8	2

TO THE COLONIES AND ABROAD.			
One Year	£1	14	8
Six Months	0	17	4
Three Months	0	8	8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0	5	0
Official and General Announcements	Ditto	0	5	0
Trade and Miscellaneous Advertisements and Situations Vacant	*Ditto*	0	4	6
	Every additional Line	0	0	6

Situations wanted: First 30 words, 2*s.* 6*d.*; per additional 8 words, 6d. Quarter Page, £1 10*s.* Half a Page, £2 15*s.* An *Entire Page*, £5 5*s*

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (*to insure insertion the same week*) should be delivered at the Office not later than Wednesday, *accompanied by a remittance.*

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE *LANCET.*

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. *ASTIER*, 31, *Rue Bapst*, Asnières, Paris.

The Ingleby Lectures

ON

DANGERS AND TREATMENT OF MYOMA OF THE UTERUS.

at the University of Birmingham on May 7th and 14th, 1908,

ISTOPHER MARTIN, M.B., C.M.
EDIN., F.R.C.S. ENG.,
SUR IRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.

LECTURE I.

Delivered on May 7th.

GENT , —It is admitted on all hands that myoma or fibroid t mour of the uterus is a common condition. I do not know what percentage of women suffer from them; but in a considerable proportion of those who consult a gynæcologist myomata are present and causing trouble. The more I see of the disease, the more I follow up the cases, the more impressed am I by the risks of the condition and the frequency with which grave complications arise. To-day I propose to call your attention to certain of these dangers and in my second lecture to discuss the methods of treatment.

HÆMORRHAGE.

Hæmorrhage from the uterus is the commonest symptom of myoma and is present in the great majority of instances. It varies much in different cases. In some, with even a large fibroid, it is only a rather profuse or prolonged menstruation. In others, with perhaps quite a small growth, there are terrific floodings. The nearer the tumour to the cavity of the uterus the more severe the flooding. Thus in the subserous growths it is slight, in the interstitial it is profuse, and in the submucous and polypi it is excessive. In some cases there is a constant dribbling of blood-stained watery fluid, with monthly exacerbations. In others there are sudden and alarming floodings, with intervals of weeks or months with little or no loss.

Some years ago I was consulted by a woman, aged about 45 years. She had had several severe hæmorrhages, with clear intervals of six or eight weeks. I found that she had a submucous fibroid, about as big as a lemon, just beginning to dilate the cervix. I advised her to have it removed but she shrank from an operation. She consulted a physician who put her on tonics and ordered her to Blackpool. The evening before she was to go away, whilst dining at a friend's house, she began to flood tremendously. She was removed home on an improvised stretcher and when I saw her, about an hour later, she was nearly pulseless. I plugged the vagina with iodoform gauze, renewing it every 48 hours. Each time when I changed the plug the bleeding started afresh. In about ten days she had rallied somewhat and I ventured to remove the growth by enucleation per vaginam. The patient made a good recovery and had no further trouble.

In 1899 a woman suffering from myoma was sent to the Birmingham and Midland Hospital for Women. She had a long history of floodings and when admitted was blanched to the last degree. She was restless, vomiting, and extremely weak. She had a temperature of 100° F. and a rapid, thready, irregular pulse. On examination a large submucous myoma was found. Whilst in hospital no further hæmorrhage occurred; but no operation was attempted, as the patient was too ill. She never rallied from the state of collapse and died about 48 hours after admission, as the direct result of the repeated losses.

It is rare for a patient to actually bleed to death from a myoma. She usually develops a condition of marked chronic anæmia. She has dilated pupils, œdema of the face and feet, loud hæmic murmurs, palpitation, breathlessness, and faintness on the slightest exertion. One of my patients who was admitted in this condition got out of bed to go to the lavatory and fell in a "dead faint" on the floor. She was so weak that I had to keep her in hospital and nurse her up for weeks before I ventured to operate. This chronic anæmia is the chief cause of the brown atrophy and fatty degeneration of the heart muscle which occurs in many cases of neglected fibroid. It is also the main factor in producing thrombosis and phlebitis of the veins of the pelvis and lower limbs, and secondary embolism of the pulmonary artery. These lesions are to blame for some of the deaths after operation; and I think that the responsibility for such deaths rests more with those who have delayed the operation than with the surgeon who performs it.

PAIN AND DISCOMFORT.

Uncomplicated myomata do not as a rule give rise to much pain; certainly there is nothing approaching the agonies of cancer. Most patients complain rather of discomfort and uneasiness. The menstrual periods are sometimes painful, from spasmodic contractions of the uterus endeavouring to expel a submucous tumour. On the other hand, subserous fibroids may attain a great size, and only give rise to inconvenience from their weight and pressure on neighbouring parts. But complicating myoma, there are often other lesions of the pelvic organs, such as adherent and inflamed ovaries and tubes, and then there is severe pain.

PRESSURE SYMPTOMS.

The pressure symptoms of myomata are numerous and frequently call for surgical treatment. Pressure on the rectum causes constipation and hæmorrhoids. Pressure on the iliac veins causes varicose veins of the legs and vulva. Pressure on the sacral plexus of nerves causes neuralgic pains, sciatica, and cramps, though seldom paralysis. Pressure on the uterus may cause backward displacement or even total prolapse of the organ. By far the most serious and distressing group of symptoms are those due to pressure on the urinary organs. Pressure on the urethra or neck of the bladder causes retention of urine. In some cases the first indication of the presence of a myoma is sudden retention of urine, necessitating the passage of a catheter. It usually occurs in young unmarried women. It is generally due to a fibroid in the posterior wall of the uterus, retroverting the uterus and tilting the cervix forwards against the pubes. In fact, these cases remind one very much of the cases of retention due to retroversion of the gravid uterus. In some cases there is a gradually increasing difficulty in passing urine, the patient having to strain and probably never really emptying her bladder. This is a frequent occurrence where the fibroid is impacted in the pelvis and unable to rise into the abdomen. In other instances we find the bladder raised quite out of the pelvis and spread out as a thin flattened bag (like a rubber hot-water bottle) between the abdominal wall and the tumour. In operating on such cases the surgeon in opening the abdomen may easily cut into the bladder. I did so in one case, a patient of Mr. M. Hallwright, the bladder reaching up to the umbilicus, uncovered in front with peritoneum. I sewed up the wound in the bladder, opened the peritoneum higher up, and performed hysterectomy. The patient got well without any bladder trouble, but at the time the accident caused me much anxiety.

In another group of cases the patient is unable to hold her urine for any length of time. Here the tumour presses on the bladder from above so that there is practically no room for it to expand. These patients have to rise in the night, perhaps every hour, to pass urine and they become worn out from want of sleep.

Cystitis seldom occurs as a result of myoma except by infection through a dirty catheter. Should it develop it is a serious complication, as the inflammation may pass up the ureter and cause pyelitis and pyonephrosis. I can recall two deaths caused in this way. If a woman has retention of urine from an impacted fibroid the strictest antiseptic precautions must be observed in drawing off her urine.

Pressure on the ureters is most apt to occur in cases where the tumour is developing in the broad ligament or growing from the cervix. In some instances the ureters are raised up out of the pelvis by the growth burrowing beneath them. In one case, in which I assisted one of my colleagues to perform hysterectomy, he found both ureters lifted up by the tumour and arching over it to reach the bladder, like a pair of braces over one's shoulders. In all such cases there is a great risk of the back pressure on the kidneys causing hydronephrosis, destruction of the renal substance, and death from uræmia.

LESIONS OF THE OVARIES AND TUBES.

Disease of the uterine appendages frequently complicates myoma. In some cases the surgeon opens the abdomen to remove a myoma and finds unexpected lesions in the ovaries and tubes which the tumour had masked, or he may operate for disease of the appendages and find in addition a small fibroid of the uterus. There are, of course, many cases where before operation both conditions were recognised as present and calling for treatment. The tubal lesions include salpingitis, hydrosalpinx, hæmatosalpinx, and pyosalpinx; the ovarian comprise ovarian cysts large and small, ovarian abscess, and chronic ovaritis. With any of these there may be dense pelvic adhesions matting together uterus, appendages, bowel, and omentum. These complications, especially that of pyosalpinx, add much to the difficulties and dangers of the operation. They are risks, however, that we cannot shirk, as the suffering of the patients without operation is often intense and the relief given complete.

The question arises, Is the myoma responsible in any way for the tubal or ovarian disease? I think, in many cases, it is. It is common knowledge that in most cases of myoma there is more or less endometritis. Further, the tumour may mechanically damage the tubes and ovaries by compression, torsion, and dragging, resulting in hydrosalpinx, hæmatosalpinx, &c. Septic changes may occur in the cavity of the uterus as the result of decomposition of clots or necrosis of submucous growths. Germs may then easily pass from the infected endometrium to the damaged tubes and ovaries, giving rise to salpingitis, pyosalpinx, and ovarian abscess. But I do not say that the myoma is the cause of the ovarian cysts so often found associated with it. We do not know the causes of these conditions. Probably neither the myoma causes the cyst nor the cyst the myoma; but both are due to some common fault in development, the nature of which is at present beyond our grasp. I see no evidence that diseased conditions of the ovaries and tubes can ever cause a myoma to develop in the uterus.

Lesions of the ovaries and tubes are found in about one-third of all cases of myoma submitted to operation. Noble in a study of 2274 cases found diseased conditions recorded in 37 per cent.; whilst they were present in 62 out of 218 cases he personally operated on. Dr. C. J. Cullingworth found them in 22 per cent. and Dr. Mary Scharlieb in 38 per cent. of their cases. In my own cases the proportion was not so high. I have now opened the abdomen 380 times for the treatment of myomata, and I found gross lesions of the uterine appendages in 53 of these (14 per cent.). There were ovarian tumours in 19, chronic or cystic ovaritis in 15, and salpingitis, hydrosalpinx or pyosalpinx in 19 cases.

HEART LESIONS.

It has been shown that myomata, especially those of large size and causing much hæmorrhage, exercise a very pernicious influence on the heart. The repeated hæmorrhages produce chronic anæmia; and, as a result, the heart is badly nourished. A large myoma causes mechanical obstruction to the circulation and increased peripheral resistance. The result is that the heart muscle undergoes fatty degeneration and brown atrophy. The latter condition was found by Fleck in seven out of 11 cases of myoma which died from heart failure. Dr. Thomas Wilson, the Ingleby lecturer of last year, has carefully studied the relation of myoma to heart disease, and says that over 40 per cent. of patients suffering from severe symptoms of myoma have some form of cardiac insufficiency. He urges the careful examination of the heart in all cases of myoma. He points out that ergot is contra-indicated if there be cardiac weakness, for it increases the peripheral resistance by contracting the arterioles. He advises the timely removal of the myoma, before the heart has deteriorated. Should heart disease have already developed the patient should be treated with rest and tonics before being submitted to operation. Finally, in those who recover from the operation a marked improvement takes place in the condition of the heart.

DEGENERATIVE CHANGES.

Myomata are peculiarly liable to various kinds of degeneration; indeed, I know of no other tumour so prone to secondary changes. They are found in about 20 per cent. of the cases. We may divide them conveniently into three great groups: (1) non-malignant degenerations *without* necrosis, occurring in about 14 per cent. of myomata; (2) non-malignant degeneration *with* necrosis, occurring in about 4 per cent. of myomata; and (3) malignant degenerations and complications, occurring in about 4 per cent. of myomata. Let us consider each group in turn.

1. *Non-malignant degenerations.*—This group is a large one and includes many different pathological processes. Amongst the mildest and most innocent are fatty degeneration, hyaline degeneration, and calcareous infiltration. These are found in tumours which have ceased active growth and may be looked upon as signs of their old age. They do not, as a rule, call for active interference. But there are other degenerations characterised by marked activity and rapid growth of the tumour. These include acute lymphatic œdema, myxomatous softening, cystic degeneration, angiomatous changes, adenomatous growths, and the curious condition known as red degeneration. There are certain clinical features common to nearly all these degenerations: (*a*) the tumour is usually, but not invariably, single; (*b*) after a period of quiescence it suddenly begins to grow rapidly, with increased pressure symptoms and often severe pain; (*c*) the tumour changes in consistence, become more elastic and softer; in the cystic variety it fluctuates and gives a thrill like an ovarian cyst; and (*d*) in many cases it becomes more vascular, the enlarged arteries being felt pulsating in its walls and a loud bruit being heard on auscultation. These changes may come on at any age but are most common about the menopause. They may even come on years after the cessation of menstruation. Amongst my 380 abdominal sections for myoma I found non-malignant degeneration recorded in 19 cases (5 per cent.), of which no less than 13 were examples of cystic degeneration.

Red degeneration.—Let me briefly call your attention to the curious condition known as red degeneration. It is sometimes called "hæmorrhagic degeneration." It is probably a form of acute aseptic necrosis and hence is termed by some writers "red necrobiosis." In Noble's collection of 2274 cases of myoma it is recorded 13 times, or 1 in 175. Whenever it does occur it causes serious symptoms and calls for immediate operation. Its essential cause is unknown. It is specially liable to occur in young pregnant women. The onset is sudden. There is acute pain with vomiting, a rapid increase in the size of the tumour, and often some degree of fever.

In a case on which I recently operated the symptoms were so sudden and severe that I thought the patient had a strangulated ovarian tumour. She was a young married woman who was about three months pregnant, and had no suspicion that she had a tumour of any kind. One evening she was seized with acute colicky pain in the pelvis, with vomiting and faintness. Her medical attendant, Dr. G. H. Mounsey, found her with some distension and a rapid pulse. She was obviously pregnant and to one side of the uterus was an elastic semi-cystic tumour. A few hours later she was worse and the tumour was distinctly larger. I was called in, diagnosed a strangulated ovarian tumour, and advised immediate operation. I opened her abdomen and found she was pregnant, whilst to one side of the uterus was a large myoma, undergoing red degeneration. I enucleated it without removing the pregnancy or the rest of the uterus. She aborted about 24 hours after the operation but otherwise did well. On cutting open the tumour it was found to be of a curious red colour, quite different from that of the ordinary whitish myoma. The tint varied from a brick-red to a dark mahogany-brown. The surface of the section was smooth and showed little trace of the fibrous structure of a myoma. Dr. L. Mackey has recently made a microscopic examination of a specimen for me and reports as follows: "The central portion of the tumour has undergone a degenerative change and consists of a red mucinoid fluid thick with the débris of the growth. The peripheral portion, though reddish, is firm and tough. The microscopic appearances show it to be a fibro-myoma. The fibrous tissue is hyaline and almost structureless. The muscle cells show very elongated rod-like nuclei. As the central cavity is approached the onset of a degenerative change is shown by the poorness of the staining of both fibrous tissue and muscle; but there is no sign of any inflammatory process. The débris in the cavity consists of fragments of fibrous and muscular tissue, the nuclei of which stand out from the more degenerated protoplasm. The fragments are œdematous, the lymph spaces being dilated. Mixed with the fragments is a good deal of old hæmorrhage and broken down red corpuscles. The condition appears to be that described as red degeneration and microscopically is a sort of necrosis without inflammation."

2. *Necrosis.*—We now come to the cases where necrosis or death of a fibroid occurs. It happens in about 4 per cent. of all myomata. When a cystic fibroid undergoes necrosis the fluid contents become converted into a kind of pus and then the growth is termed a suppurating fibroid. It is rare for an interstitial myoma to necrose, probably because it is well

supplied with blood on all sides. The submucous and polypoid varieties are, however, very prone to do so.

Let us consider how the necrosis is brought about. A myoma is nourished almost entirely by its vascular capsule, the growth itself being practically free from blood-vessels. The growth tends to become more and more submucous and is finally covered on the inner aspect by mucous membrane only. The uterine contractions try to force the fibroid through the cervix, just as in labour the fœtal head is driven down. The patch of mucous membrane, gripped by the cervical ring, becomes devitalised and sloughs, laying bare the myoma proper. This is now nourished on its outer aspect *only, and imperfectly there. Germs get access* to it from the vagina and complete the work of destruction. The tumour dies, becomes greenish grey or blackish grey in colour, and breaks down into a horribly offensive, soft, mushy mass, which is slowly extruded through the cervix.

There are other modes by which a submucous myoma may become infected and necrose: (*a*) by the passage of a dirty sound in examining the uterus; (*b*) by an intra-uterine operation, such as curetting, done with dirty hands or instruments; or (*c*) by the puncture of the growth with Apostoli's electrolytic needles (this was a fertile source of disaster when this method was in fashion). However *produced, when once* necrosis has set in, it is unmistakeable. The stench of these cases is sometimes appalling, filling the whole house. At the same time, the patient becomes infected and poisoned by toxins absorbed from the gangrenous tumour; and, if not speedily relieved by operation, will die from septicæmia or pyæmia. In some of my most putrid cases, however, I have been amazed by the absence of any systemic infection, the patient being only distressed by the disgusting smell of her discharges. This, no doubt, must be explained by the slow onset of the process, allowing for self-immunisation.

These cases of sloughing fibroid may be mistaken *for* advanced cancer of the uterus—an error which would be disastrous if it led the surgeon to treat *the case as hopeless* and not attempt to remove the growth. It is not always easy to differentiate without a thorough examination under an anæsthetic. If the cervix be softened and dilated by a tumour being forced through it the tumour is a fibroid and not a cancer. If, beyond the necrosing part, a smooth rounded mass can be felt covered by mucous membrane it is probably a fibroid. If the protruding part be brittle and friable and crumble under the finger it is a *cancer.* A sloughing fibroid can be pulled away with forceps in stringy shreds or rounded masses, and on close investigation of these fragments some trace of the fibrous structure of a myoma may be seen. If still in doubt, a microscopic examination of a bit of débris will clear up the matter. It is of the utmost importance that a correct diagnosis be made, as an early operation will save the life of the patient if it be a fibroid; indeed, I know of no cases which *yield* more brilliant results to timely surgical interference.

3. *Malignant degeneration.*—The researches of modern pathologists and gynæcologists show that there is a marked tendency for a myoma to become directly transformed into a sarcoma. Winter examined microscopically 500 myomata and found sarcomatous changes in 4 per cent. Martin found sarcomatous degeneration in 6 out of 205, Cullingworth in 1 out of 100, Scharlieb in 6 out of 100, Haultain in 2 out of 120, Hirst in 3 out of 189, and McDowel in 20 out of 1000 cases. In my own 380 abdominal sections for myoma I found sarcomatous changes in 9 cases. Adding these cases together we find it occurs in a little over 2 per cent. But this list includes only the sarcomata recognised as originating in myomata. Probably many other cases, thought to be primary sarcomata, have originated in unrecognised myomata. Hence I think that Winter's figures give the truer proportion, viz., 4 per cent.

There can be no doubt that the subjects of myoma are specially prone to develop cancer of the uterus. It is not a degeneration or transformation of the myoma *into* cancer, but an associated lesion. In my own practice I found in 380 operations for myoma 6 cases *complicated* with cancer (1·6 per cent.). Noble, in 4880 cases he collected, found cancer present in 2·8 per cent., whilst it was present in 4 per cent. of the cases he himself had operated on. Of these 1·4 per cent. were cancer of the cervix and 2·6 per cent. cancer of the body of the uterus. Now *it* must be remembered that cancer of the cervix is ten times more common in women generally than is cancer of the body. If, therefore, cancer occurs twice as often in the body as in the cervix of myomatous uteri, there must be something in myomata which predisposes to the development of corporeal cancer.

Relation to Pregnancy.

Myomata tend to cause sterility. Mann found that 55 per cent. of married women with fibroids never conceived. Amongst married women generally only 15 per cent. are sterile, so there is nearly four times more sterility in myomatous women than in other women. It is fortunate it is so, as there can be no doubt that the occurrence of pregnancy adds greatly to the dangers of myoma. A woman with a fibroid is safer single than married and a married woman with a fibroid is safer sterile than pregnant. Some authors, noting that myomatous women are often sterile, have suggested that sterility is a cause of myomata. They suppose that these women ardently long to have children and that their unsatisfied maternal desires keep up a congested condition of the uterus and in some mysterious way produce a myoma. I do not believe in transcendental pathology and I think these theorists put the cart before the horse. The myoma causes the sterility and not the sterility the myoma. It is, moreover, easy to understand how the presence of one or more fibroid nodules imbedded in the womb may stimulate its sensory nerves and awaken strong maternal passions.

Let us now consider the results of pregnancy in a myomatous uterus. Whilst some women with moderately large fibroids go through pregnancy and labour without a hitch it is usually a serious complication. If the tumour be submucous or interstitial the patient generally aborts about the fourth month and this is the best thing that could happen for her. I have seen several cases of severe uncontrollable vomiting in pregnant women with interstitial fibroids, due, I believe, to the inability of the uterus to expand with the growth of the pregnancy. In most of these cases abortion had to be artificially induced. When abortion occurs, *whether spontaneously or induced, there* are apt to be retention of placental tissue and alarming hæmorrhage from imperfect contraction of the uterus. Another risk is that, following an abortion a submucous myoma may necrose and be a source of sepsis. I have already referred to the special tendency of red degeneration to occur in pregnancy.

A fibroid may be so large that it may mechanically prevent the normal development of the pregnant uterus and necessitate surgical interference. Some years ago I had sent to me, by Dr. C. Davidson of Coventry, a patient with a huge myoma and also a five months pregnancy. She was in great distress, and there was no room, apparently, for any further growth of the pregnancy. So I opened her abdomen and removed the entire uterus.

In some cases the fibroid is impacted in the pelvis below the pregnancy in such a way that it is obvious the child cannot be born *per vias naturales.* Wherever situated a large fibroid adds greatly to the risks of a full-time labour. It may interfere with the contractions of the uterus and so delay delivery. It may, by *preventing contraction* after delivery, cause retention of the placenta or alarming hæmorrhage. As a result of *bruising or torsion* the growth may undergo necrosis and cause fatal sepsis. It will thus be seen that the combination of pregnancy with a *large* myoma is a grave one, full of danger for the patient and anxiety for the medical attendant. The mortality is great, as in many cases surgical aid is not called in till it is too late.

Summary of Risks.

Let me now briefly summarise the risks which a woman with a fibroid tumour runs. 1. More than half the patients suffer from severe hæmorrhage and chronic anæmia. 2. Many patients develop heart disease, phlebitis, thrombosis, and embolism. 3. Other patients get retention of urine, cystitis, pyelitis, and hydronephrosis. 4. In about one-third of the cases the ovaries and tubes become diseased. 5. In about one-fifth of the cases *some form of degeneration* occurs, ending in nearly 5 per cent. in necrosis of the growth. 4 per cent. develop sarcoma and another 4 per cent. cancer. 6. More than half the patients are sterile, but should pregnancy occur the dangers increase with the progress of the gestation.

Natural Cure of Fibroids.

There are three modes by which a "natural cure" of a myoma may take place: (1) a submucous fibroid may necrose and slough away, or it may be extruded through the cervix as a polypus, *and* drop off; (2) a myoma may participate in the involution of the puerperium and disappear; *or* (3) it may undergo atrophy at the menopause.

The first mode—by necrosis and sloughing away of the tumour—I have already discussed. Needless *to* say, its risks are much greater than those of the most formidable of the modern operations for fibroids. The gradual conversion of a submucous fibroid into a polypus, followed by its extrusion and separation *en masse*, does undoubtedly occur. But it is a long, tedious, and dangerous process, more likely to kill the patient than to cure her.

The second process of natural cure—viz., by its sharing in the involution of the uterus after delivery—is also uncertain, and is more apparent than real. Myomata are very sensitive to changes in their blood-supply. When pregnancy occurs the increased vascularity of the womb causes the tumours to take on active growth. They often become more mobile—due no doubt to the softening of the surrounding uterine wall. An interstitial fibroid seems sometimes to be converted into a subserous one, by being pushed outwards toward the peritoneum by the growing ovum. Should the patient pull safely through the pregnancy and labour, the blood-supply of the uterus rapidly diminishes. The tumour then shares in the process of involution, shrinks in size, and in some cases seems to disappear. This fortunate result is, however, by no means a certainty, and in many cases the tumour, so far from shrinking, takes on more active development. It is probable, as Dakin says, that very few fibroids are absorbed; but many degenerate, become inflamed, or undergo necrosis. Only a few months ago I had to operate on a lady who had a large subserous fibroid growing from the top of her uterus. She had been confined three months before, when the tumour was discovered by her medical attendant (Mr. J. A. L. Peirce of Langley). Instead of shrinking during the puerperium it took on active growth. I opened her abdomen and found a large cystic fibroid attached by a broad pedicle to the top of the fundus. I removed it by dividing the pedicle, saving the rest of the uterus.

Lastly, a natural cure may occur by the absorption and disappearance of a fibroid at the menopause. This phenomenon was at one time looked upon as almost a certainty. The woman was told that if only she would wait till the change of life the growth would disappear and all her troubles would be at an end. But a sad experience shows that these hopes are illusory. As a matter of fact, the presence of a fibroid delays the natural change of life, and instead of the hæmorrhages ceasing at 45 years of age they go on with increased vehemence until the patient is 50 years of age, or 55 years, or even older. Let me relate a case in point. In 1898 I was consulted by a lady, aged 46 years, who had a myoma about as large as a five-months pregnancy reaching to one inch below the umbilicus. It caused severe and irregular hæmorrhages but not much pain. I advised ergot and hydrastis, told her to spend the whole of each period in bed, and urged her to wait for the menopause. Well, she followed my advice faithfully for years. I saw her at intervals and encouraged her to persevere and to wait for nature's cure. But, like the mirage in the desert, it kept receding into the distance and mocking her hopes. Finally, last year I had to perform hysterectomy. The tumour had now grown well above the umbilicus whilst the repeated hæmorrhages had blanched the patient and reduced her vitality. Considering her weak state she made a good recovery from the operation, but I feel that by following my advice to wait for the climacteric she wasted many of the best years of her life.

Even if the hæmorrhage ceases, this only removes one of the many risks of the condition. It is just at this period that the most serious forms of degeneration are apt to supervene. Noble, in his study of 4880 cases, says that he is not acquainted with a single authentic case in which a fibroid has entirely disappeared at or after the menopause.

Realising, on the one hand, the manifold dangers of myomata—the pressure symptoms, the cardiac and renal complications, the risks of degeneration, necrosis and malignant disease—and, on the other hand, the safety and the certainty of cure offered by modern surgical operation, I hold that we are not now justified in advising a patient with a troublesome fibroid to wait for the menopause.

UNIVERSITY COLLEGE HOSPITAL.—The committee is issuing a special appeal on behalf of this charity in which it is stated that the hospital has been compelled recently to sell £4000 of its small available funded property in order to pay overdue accounts of 1907. Failing a substantial response it appears that some of the beds must be closed, which would be doubly regrettable in an institution which had been so recently and handsomely equipped. The annual income required is £19,000.

Oliver-Sharpey Lectures

ON THE

PRESENT CONDITION OF OUR KNOWLEDGE REGARDING THE FUNCTIONS OF THE SUPRARENAL CAPSULES.

Delivered before the Royal College of Physicians of London on April 7th and 9th, 1908,

By E. A. SCHÄFER, LL.D. ABERD., Sc.D. DUB., F.R.S.,

PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF EDINBURGH.

LECTURE II.[1]

Delivered on April 9th.

GENTLEMEN,—We may now return to the results of the investigations made by Dr. Oliver and myself during the winter of 1893-94. The first point established was the *punctum saliens* of suprarenal activity—namely, that intravenous injection of the merest trace of suprarenal extract is capable of producing a striking rise of blood pressure; while with larger doses the rise may be so great as to be beyond the registering power of a mercurial manometer of ordinary length, the mercury being driven out from the open end of the manometer tube. We found this rise of blood pressure to be due to two causes—namely, (1) contraction of arterioles; and (2) increased rate and energy of heart beat. We further noticed that sometimes in the early stages of action of the extract the heart, instead of being augmented and accelerated in its action, is strongly inhibited, so much so that the auricles may cease beating altogether, the circulation being maintained by the slow independent rhythm of the ventricles. When this happens two antagonistic influences are at work: the one, constriction of the arterioles, tending to raise the blood pressure; and the other, cardiac inhibition, tending to lower it. The former influence is, however, always the stronger, and if both vagi be cut, or if a small dose of atropine be given, the cardiac inhibition is no longer visible but is entirely replaced by acceleration and augmentation. This, of course, assists instead of impeding the effect of vaso-constriction, the result being that the blood pressure rises enormously. The cardiac inhibition is proved by this experiment (section of vagi or their paralysis by means of atropine) to be of central origin and due to the excitation of the cardio-inhibitory centre in the medulla oblongata by the extract. The moment the centre is cut off by section of the vagi, the accelerator influences, which are also put in action by the drug, take on their full activity. These influences act directly upon the heart itself. According to Neujean (1904) the action is also a central one; but, if so, it is completely obscured by the central cardio-inhibitory effect unless the vagi be first divided. The acceleration is very evident when the cord is cut and when all nervous connexions between the heart and the central nervous system are severed. It is never better exhibited than in the separated heart of the mammal fed through the coronary arteries with Ringer's solution, to which a minute amount of suprarenal extract or of its active principle has been added. It should, however, be stated that this particular form of demonstration of the fact under consideration was not possible at the time with which we are dealing, since the method of perfusion of the mammalian heart through the coronary arteries, which we owe to Langendorff, was not then accessible to us. Sometimes the inhibitory action is deferred, the accelerator influence being so strong as to eliminate it altogether for the time being. But after two or three minutes the inhibition may suddenly show itself and prevail for some time over the accelerator effect.

The result of the action of adrenin upon the heart is well shown if the contractions of the auricles and ventricles are separately recorded. It is then seen that the active substance acts mainly, so far as the inhibition is concerned, upon the auricles, which, when the action upon the inhibitory centre is powerful, may altogether cease for a time to beat, the ventricles continuing alone with an altered, slower, and somewhat irregular rhythm. Accelerator and augmentor effects, which are precisely similar to those which are obtained by electrical excitation of the sympathetic branches proceeding to the cardiac plexuses, are, on the other hand, produced upon both auricle and ventricle, each showing a striking increase in rate and force of beat. The effects obtained with the isolated frog ventricle fed by Ringer's solution were less striking than those got in mammals. There was only slight acceleration, but the beat, if weak, was strengthened, and if irregular became regular; and with larger dosage the systole was prolonged and the diastole reduced in amount, so that the heart remained almost completely contracted.

---

[1] Lecture I. was published in THE LANCET of May 30th, 1908, p. 1531.

One of the first points we set ourselves to determine was the question whether the vaso constriction which is so pronounced a feature of the action of the extracts is of central or of peripheral origin. This we investigated in two ways. First, we destroyed in the frog the whole of the central nervous system and having suspended the animal with the toes dependent we perfused Ringer's solution through the blood-vessels by means of a cannula tied into the aorta. The amount of fluid per minute flowing through the vessels and dripping from the toes was measured, and a small amount of suprarenal extract was then added to the fluid used for perfusion. We found that the addition of a little more than a trace of the extract produced so great a constriction of the arterioles that the flow of fluid nearly ceased. It was therefore clear that the constriction produced is independent of the central nervous system, and is probably of peripheral origin. Later, in the mammal, we adopted a somewhat different procedure. Having ascertained that section of the cord in the cervical region, whereby the vaso-motor centre in the medulla oblongata was cut off from the subordinate spinal centres, had no effect in abolishing the action of the extract upon the blood-vessels nor the raising of the blood pressure, we proceeded to try whether section of all the nerves passing to a limb would have any influence on its action upon the limb vessels. To test this we inserted both fore-limbs of a dog in plethysmographs, which were constructed like the original instrument employed by Mosso for the human arm, of glass cylinders; these communicated with recording tambours or piston recorders by rubber tubes filled with air. Under these circumstances, anything which would tend to constrict or dilate the arteries of the limb would produce a fall or rise, as the case might be, of the lever of the registering tambour. A blood-pressure curve was taken simultaneously in the same animal. To obviate the possible effects of muscular movements a small dose of curare was given, morphine being employed as an anæsthetic.

A first injection of saline extract of suprarenal produced the characteristic rise of blood pressure but not to an excessive degree. The register of both fore-limbs shows marked contraction; evidently the arterioles in both are undergoing constriction. This is not uniformly the case with the limb vessels, for they contract less readily than the vessels of the splanchnic area, and when the constriction of the latter is very marked the rise of blood pressure produced may even cause passive dilatation of the limb. The whole of the brachial plexus of the right fore-limb was now cut and the injection was repeated. The second curves under these altered conditions are so nearly identical with the first that unless they had been marked it would have been impossible to say which was the one taken before and which after section of the plexus. This experiment eliminates not only possible effects upon the centres for the blood-vessels in the medulla oblongata and spinal cord, but also any effects which might be caused by stimulation of sympathetic ganglion cells, for there are no known ganglia within the limbs. The inference, therefore, was obvious that the vaso-constrictor action is peripheral, and must be produced either upon the nerve fibres or upon their end mechanism, or upon the muscular tissue of the blood-vessels. Certain considerations led us to conclude that the effect was probably a direct one upon the muscular fibres, and although this conjecture was not at the time supported by convincing evidence it has since proved, as the result of experiments by others on the effect of the extract after section and degeneration of all nerve fibres, to be correct. This is a point to which I shall again have to return. Upon the respiration we found that the gland extracts had little immediate action, causing the rhythm to become at first more rapid and the depth shallower. These effects we found to pass off as the circulatory disturbance disappeared.

In the following winter (1894–95), Dr. Oliver being again set free from the cares of practice by the close of the Harrogate season, we resumed our joint investigation and extended it to other animals and to suprarenal glands obtained from various sources. These included the suprarenals from two cases of advanced Addison's disease which we found yielded no active principle at all. We determined that, although after each dose the effects are found to pass off within five or six minutes, if a saline solution containing suprarenal extract be allowed to pass slowly but continuously into a vein, the physiological effects which have been described, and especially the vaso-constriction and cardiac acceleration, are maintained during the whole period of flow. This has been confirmed by Crile and also by Kretschmer (1907). We investigated the effect upon other organs of the body than those previously tried and showed that both the spleen and kidney undergo a marked contraction under the influence of the extract; in the case of the latter organ with diminution of flow of urine. This is the more interesting because pituitary extract, which also produces well-marked contraction of blood-vessels and in some other respects similar physiological results to those caused by suprarenal extract, has an opposite effect upon the kidney vessels and urine, producing a dilatation of the renal arterioles and a free flow of urine. We also attempted to determine whether the extract has any effect on other glands and selected for this purpose the submaxillary of the dog. Having in one or two experiments, undertaken with this object, failed to obtain a flow of saliva as the result of administration of the extract we somewhat too hastily concluded that it had no effect upon these organs. Langley, however (1901), working with the cat, found that the extract produces from all the glands a flow of saliva similar to that which is yielded by stimulation of the cervical sympathetic. Our failure to observe this furnishes a lesson of the desirability of multiplying physiological experiments and of not restricting such observations to animals of one species. Had we been less easily satisfied with accepting our first negative results, which may have been due to an excess of the morphine which we used as an anæsthetic, we should not have missed so important an observation.

In the course of the previous investigations we had found that the extract not only produces a contraction or increase of tone in vascular and cardiac muscle but that frogs which had received a subcutaneous dose show an increased power of contraction of the skeletal muscles on stimulation of their nerves. In the further investigation (1894–95) we extended this observation to mammalian muscle and we further showed that this effect upon muscle lasts for some time after the effects upon the vascular system have disappeared. We therefore came to the conclusion that the active substance is probably taken up by, and remains for a time stored within, muscle and that this may in a measure account for its disappearance from the blood. For we at the same time determined that it is not excreted by the urine, nor is it at once reabsorbed by the capsules. In any case its ultimate disappearance is probably due to a process of oxidation occurring within the tissues. We showed that such oxidation does not occur in the blood, for a portion of the extract left in contact with arterial blood for 22 hours was just as active as a similar portion kept in saline solution. Kretschmer (1907) nevertheless believes that the disappearance of the effect is connected with the alkalinity of the blood, for he finds that if this is diminished by the administration of acids the effect of suprarenal upon the blood pressure is prolonged. According to Miller (1907) the active substance does not disappear from the blood. He states that the blood of a rabbit which has received a dose of adrenin will cause the typical rise of blood pressure if injected into another rabbit, although the effects upon the first animal may have disappeared. Finally, we proved that the extracts of the cortex of the gland are quite inactive, the active principle being confined strictly to the medulla. The principle is, in fact, now known to be identical or, at any rate, closely associated with the chromogenic substance obtained by Vulpian, which is contained in the chromophil or chromaffin cells of Stilling and Kohn.

During this same period (1894–95) and unaware of our experiments and observations of the previous winter, which were published in the *Journal of Physiology* in the spring of 1894 (the full communication appearing in the same journal in 1895), two Polish physiologists, Dr. Szymonowicz and Professor Cybulski of Cracow, were engaged upon a similar research. Their results were published as preliminary communications to the Academy of Sciences of Cracow in

February and March, 1895, and in full by Dr. Szymonowicz in *Pflüger's Archiv* in 1896. They observed many of the phenomena which we had described and brought independent corroboration of many of our observations. But in some minor details and in one important point they obtained different results. They were led to conclude that the extract produces its vaso-constrictor effects, not peripherally but centrally, upon the centres in the medulla oblongata, not upon the blood-vessels themselves. This was, as we have seen, obviously a mistaken conclusion, and it is difficult to understand how so experienced a physiologist as Professor Cybulski can have arrived at it. In most other points their results were corroborative of ours. They, however, referred the symptoms of Addison's disease partly to implication of sympathetic nerves and ganglia, partly to absence of the effects which, in conformity with the conclusions they had arrived at, are produced upon the nerve centres. To the Polish scientists must none the less be accorded the credit of having independently arrived at the establishment of the principle that the suprarenal glands are organs which yield an active internal secretion.

Recent Researches.

This was the condition of our knowledge of the subject in the spring of 1895. From this time onwards researches multiplied and many other interesting facts regarding the action of the extract were determined. One of these which has come to be of practical importance in medicine, and especially in surgery, was the proof of the direct local action of the extract. This was determined by Dr. Oliver (1897) who placed a fragment of dry medulla of a suprarenal capsule upon a small artery in the mesentery of a frog which was spread out under the microscope for the observation of the circulation. As the active material dissolved and penetrated to the walls of the vessel this showed a local contraction which became eventually so marked that the blood ceased to be driven through that particular artery. This suggested its applicability as a styptic and we came in the habit of employing it to check bleeding from wounds made in the course of vivisection experiments; its application to surgical needs of this description is now universal. Especially is it employed as an adjuvant to the subcutaneous injection of cocaine and similar local anæsthetics, the action of which it assists by diminishing blood flow and absorption in the part to be anæsthetised. In epistaxis I myself early had an opportunity of verifying its styptic character. And Dr. Oliver found that a congested and inflamed conjunctiva is at once rendered pallid under its influence. Similar but independent observations were made by W. H. Bates (1896), who published in the *New York Medical Journal* the result of its use in diseases of the eye. One of the most striking facts relative to this styptic action is that, although when given by the mouth, no evident change occurs in the blood pressure, there is very distinct evidence of vascular constriction, for bleeding from internal parts, such as the stomach, intestine, bladder, and uterus, even the bleeding of post-partum hæmorrhage, may thereby be effectually controlled. The explanation of this which most readily presents itself is that injured vessels are more susceptible to the extract and react to a slight excess of it in the blood more readily than do normal vessels. This is somewhat analogous to what is found after section and degeneration of the sympathetic nerve fibres to a part, in which case the reaction is also greatly intensified.

An enumeration of the various uses of the extract in clinical medicine and surgery has been given recently by J. L. Miller in the *Journal of the American Medical Association* for May, 1907. Amongst these he includes its employment as a topical application to mucous membranes, especially the nose and throat, and internally in a variety of different conditions, especially cardiac insufficiency, as in diphtheria—in which, as Elliott and Tuckett (1906) have shown, there is a deficiency of chromogen in the medulla—internal hæmorrhage, bronchial asthma, and the treatment of various transudates in the body cavities. Its use is indicated in cases where there are marked vaso-dilatation and insufficiency of cardiac action. Such conditions may be produced experimentally by chloral and some other anæsthetic drugs, and are present in the final stages of asphyxia. They also occur in shock. Gottlieb found that if the heart of a rabbit is brought to a standstill by chloral it may be revived by suprarenal extract, which is superior in its action to digitalis. Crile has shown its value in surgical shock, Miles and Muhlberg in vaso-motor failure from excess of ether; but in heart standstill from chloroform poisoning Dr. Herbert J. Scharlieb and I found it was impossible to revive permanently the cardiac muscle by adrenin. In conjunction with Dr. Herring I experienced a similar failure in asphyxia (from drowning) after both heart and respiration had ceased; although the heart may by its injection into the cardiac substance be stimulated to resume its action for a short time, the effect is not permanent. When the heart muscle is affected by disease, its value as a cardiac and vaso-motor stimulant is dubious, for it may throw too great a strain upon the weakened cardiac tissue. Thus, Gottlieb found that in a rabbit poisoned by repeated doses of diphtheria toxin, intravenous injections of adrenalin, although for a very short time apparently beneficial, were soon followed by still greater collapse and death. But probably administration by the mouth or subcutaneously, having a slower effect, might be beneficial in such cases. Kaplan and Miller both report satisfactory results from its use in bronchial asthma; it, however, only gives temporary relief and is in no sense curative. It is not known how the beneficial effect is produced; it is possibly due to inhibition of the bronchial musculature. Barr (1903) found that the fluid of pleurisy and other serous accumulations in the body cavities did not reaccumulate after evacuation and introduction of adrenalin.

In Addison's disease the employment of suprarenal extract has been found beneficial but not curative. This is scarcely to be wondered at when we consider that the primary cause of the disease is usually tuberculous or malignant affection of the capsules. The effect in diminishing the weakness and sense of lassitude is very marked in certain cases. In one of those reported by Langlois, in which prior to taking the extract the ergographic curve of the patient showed extreme muscular weakness and rapid fatigue, after a six weeks' course of the extract, the curve became as well marked and prolonged as that of a normal individual. In a few instances a cure has been reported, but this may occur without the use of the extract, and such cures of the diseases are probably due to functional suppression of the secretions and not to organic disease of the gland. O. Grünbaum (1907) states that suprarenal extract, although when administered by the mouth it ordinarily fails to show elevation of blood pressure, will produce this effect in cases of Addison's disease. Bossi (1907) reports great improvement in osteomalacia in pregnant women as the result of subcutaneous injections of the extract, but further experience is needed to confirm these observations. I need, however, not further dwell upon the clinical applications of suprarenal extract, which have, moreover, recently received adequate treatment from Rolleston in his address last year before the Canadian Medical Association. This would be occupying your time most unnecessarily, seeing that there is probably no one present in this room who is not better informed upon this subject than myself. It will be more profitable if I turn to the consideration of the data which have been added to our knowledge of the physiological action of the extract since the discovery of its best-marked effects.

The most important of these additional data were those contributed by Lewandowsky (1899), who found that the intravenous injection produces dilatation of the pupil, withdrawal of the membrana nictitans, protrusion of the globe, opening of the palpebral fissure, excitation of arrectores pili, and inhibition of the bladder. Boruttau (1899) showed that it causes inhibition of intestinal movements. All these results are also produced by sympathetic excitation. But that the effects are not the results of excitation of the sympathetic nerve fibres is clear from the fact, also discovered by Lewandowsky, that the results are equally well obtained after these fibres are cut and allowed to degenerate. Langley (1901–02) added to the list of sympathetic innervated parts excited by this substance the salivary and lacrymal glands, the liver, the muscular tissue of the uterus and vagina, of the vas deferens, and vesiculæ seminales, the dartos and the muscular coat of the stomach; in the last-named organ inhibition of the muscular movements is produced. On the other hand, the sweat glands are not excited to secrete, nor the pancreas, and the relative amount of effect produced is not the same as that caused by electrical stimulation of the sympathetic nerves to the part. Apocodeine abolishes the effects produced by sympathetic excitation and was found by Dixon to abolish those produced by adrenalin. He therefore concluded that this acts upon the endings of the sympathetic. But, as we have seen, Lewandowsky had shown that the effects are got after section and degeneration of the sympathetic fibres. Langendorff (1900), confirming older observations by Budge and others, found that the effect of agencies which produce pupil dilatation is enhanced after removal of the inferior cervical ganglion ("paradoxical effect"). Dr. and Miss Meltzer (1903) showed that this paradoxical effect is marked in the case of suprarenal extract; that after removal of the superior cervical ganglion the effect of intravenous injection, instead of disappearing within about a minute, becomes prolonged, and that subcutaneous injection and conjunctival application, which normally are without effect, now produce marked pupil dilatation. This observation was confirmed by Elliott (1904–05), who insisted upon the fact that the excitation must be due to some substance within the muscle fibres being affected by the extract, and suggested that this substance is present at the "myoneural junction," where it is originally formed under the influence of the sympathetic fibres. By an extension of this idea we can suppose that the formation being once started, its amount is also controlled by the sympathetic, and if this control be cut off an inordinate quantity may accumulate, thus increasing the excitability of the isolated muscle fibres. That the presence of nerve fibres is essential to the original appearance of such hypothetical excitable substance was shown by the observations of Macfie (1905), who found that the extract has no effect upon the movements of the protoplasm of amœboid cells or cilia nor upon the heart of the chick before the ingrowth of nerve fibres into it, although after such ingrowth the effect is most striking. Langley (1903–07) believes that the excitable substance which Elliott supposed to be confined to the myoneural junction is diffused through the protoplasm of the cell of which it has come to form an integral part. He proposes for the hypothetical material which thus reacts not only to adrenalin but in various ways to different drugs the name "receptive substance," and regards the differences of effect which he has determined in different sympathetic innervated organs as due to the relative amount of this substance in the cells. That there is some apparatus or material developed within cells originally under the influence of sympathetic nerves which is specially excited by adrenalin and by drugs of similar chemical character there can be no doubt, but whether it is limited to the region of the original nerve terminals or is diffused through the protoplasm is a point difficult of determination. It is not unlikely that experiments upon skeletal muscle, the excitability of which by various drugs is also affected by section of the nerves to the muscle, may throw light upon this question, which is one of great theoretical importance in connexion not only with the physiology of internal secretion but also with the action of drugs upon the muscular and glandular systems.

Another interesting datum which has been added to our knowledge of suprarenal extract is the observation that subcutaneous injection of adrenalin, even in relatively small doses (0·5 milligramme per kilogramme), produces marked glycosuria in both rabbits and dogs; the effect begins within one hour, and may last after a single dose for 24 hours or more. This was first noticed by Blum (1901), and the subject has since been followed up by various investigators, among whom may be enumerated Zuelzer (1901), Metzgar (1902), Herter (1902), Noël Paton (1903), and Lazarus (1907). The last observer states that after prolonged treatment with adrenalin there is marked hypertrophy of the islets of Langerhans of the pancreas, as well as of the suprarenals. There is, however, so much variation in the apparent amount of the islet tissue, even in the normal pancreas, that statements of this kind must be received with caution. Herter and Richards and also Paton showed that, as with phloridzin and pancreatic diabetes, glycosuria occurs even when stored carbohydrates have been previously eliminated. There undoubtedly seem to be connecting links between the glycosuria set up by pancreatic removal and that due to the action of suprarenal extract. Herter and Wakeman (1903) found that quite small amounts (1 cubic centimetre of a 1 in 1000 solution) of adrenalin applied to the pancreas provoke marked glycosuria. Intraperitoneal injection is more efficacious than subcutaneous. The amount of sugar in the blood is largely increased by the injection, while it is found to fall considerably on extirpation of the glands or ligature of the vessels. After such ligature removal of the pancreas may not produce glycosuria. Löwe (1907) found that in pancreas diabetes adrenalin readily produces pupil dilatation if dropped into the conjunctiva, whereas in the normal individual no such reaction is obtained. This observation was confirmed by Biedl and Offer (1907), and may serve as a diagnostic sign for this form of diabetes. Biedl (1898) had found that diabetes is produced by tying the thoracic duct, and even more effectually by leading it to the exterior and allowing the lymph to flow away, the amount of sugar appearing in the urine, even on a diet free from carbohydrate, being from 1 to more than 5 per cent. Biedl and Offer find that in this form of diabetes the pupil reacts readily to adrenalin dropped on the conjunctiva. They further find that admixture with lymph or simultaneous injection of lymph from another animal prevents adrenalin diabetes. The mydriatic effect is also said by them to be prevented by admixture with lymph, which, further, may be protein-free. Lépine (1890) had already noticed that in a dog with pancreas diabetes the injection of lymph from a normal animal produces marked temporary diminution of sugar in the urine. The idea which suggests itself is that the lymph normally contains a chemical (glycolytic) substance derived from the islets of the pancreas, which is essential to the due maintenance of normal carbohydrate metabolism.

We have seen that the most marked and probably the most important effect of suprarenal secretion in the body is to increase the contraction and maintain the tone of the blood-vessels. But the extract does not act equally upon all arteries. Its effect is perhaps greatest upon those of the splanchnic area; it is certainly less upon the arteries of the limbs, which may even be passively expanded in consequence of the great rise of pressure produced by contraction of the arterioles of the splanchnic area, this rise of pressure being assisted by the accompanying augmentation and acceleration of the heart. For the same reason the larger arteries, especially the aorta and its immediate branches, may stretch almost to rupture. Nevertheless, transverse strips of the muscular coat of the blood-vessels immersed in Ringer's solution containing suprarenal extract contract strongly, as do isolated sections of the vessels connected with a manometer and immersed in suprarenal extract. Some vessels, however, show much less contraction than others. Brodie and Dixon (1906) were unable to obtain evidence of constriction of the pulmonary vessels on injection of suprarenal; it is also difficult to show any effect upon them on excitation of the sympathetic. It is true that Bradford and Dean (1894) thought they could demonstrate a slight independent effect on the pulmonary arterioles on stimulation of the cord, but the method they adopted is open to criticism. Plumier (1907) repeated Brodie and Dixon's experiment and using stronger doses of adrenalin succeeded in getting a positive result. It is, however, clear that the action is far less than upon the systemic vessels. It has therefore been judged dangerous to administer adrenalin—even by the mouth—in pulmonary hæmorrhage, because it is supposed to raise the systemic blood pressure without constricting the pulmonary vessels and thereby to increase the tendency to hæmoptysis. But administration by the mouth does not perceptibly raise the systemic blood pressure and nevertheless there is considerable clinical evidence that internal hæmorrhages, when not too profuse nor coming from large vessels, may be brought under control by its oral administration. I have already suggested that it may have a greater effect upon injured vessels, and this may also be true for small ruptured pulmonary vessels. For my own part, I see no physiological contra-indication for its use in assisting to arrest hæmoptysis—when the bleeding is derived from rupture of small vessels. And certainly the bronchial vessels should be quite amenable to its action, whatever opinion may be held about the pulmonary arterioles. On the cerebral vessels also, although various observers at first failed to obtain evidence of contraction, it has now been shown by Wiggens (1905) by the perfusion method that the extract may produce a vaso-constrictor effect, although to a less degree than with ordinary arteries. Whether it can be used beneficially in threatening cerebral hæmorrhage is a question for clinical experience to decide, but as with the analogous case of pulmonary hæmorrhage there is no physiological contra-indication if administered by the mouth.

There remains for consideration the coronary circulation. Are the coronary vessels constricted by suprarenal extract, or are they dilated, or is there no specific action? Nothing is definitely known regarding the innervation of these vessels. Roy and Adami (1892) thought they had some evidence that the vagi may produce vaso-constrictor and the sympathetic vaso-dilator effects on them. But they did not employ the perfusion method to determine the point and their evidence must be regarded as inconclusive. It has, indeed, been generally held that the coronary arteries are little, if at all, controlled by vaso-motors. Recently (1906) I myself endeavoured to solve this question with the aid of the perfusion method. For this purpose I collected and recorded by a specially-devised apparatus the amount of Ringer's solution passing through the coronary vessels per minute in the isolated mammalian heart and observed the effects upon the flow of stimulating the vagus and sympathetic nerves passing to the heart. The results I obtained did not justify the inference that there exist active vaso-motor fibres, although I obtained during the cardiac acceleration, which was produced by stimulation of the sympathetic and still more during that produced by suprarenal, an increased flow of blood through the coronary vessels. This might, however, quite well be accounted for by increase in activity of the cardiac muscle, which would mechanically facilitate the flow through the coronary vessels. Langendorff (1907) has lately adopted another method for determining this question—namely, that of immersing strips of the vascular wall attached to a lever in adrenalin solution. He states that whereas strips from other arteries so tested contract when adrenalin is brought in contact with them, a strip from a coronary artery will become relaxed, and he infers from this that suprarenal extract produces inhibition and therefore vaso-dilatation. If this is so the action is different from that produced on all other vessels. Such a result would perhaps not be surprising, seeing that a rapidly and strongly contracting heart must necessarily pass more blood through its vessels than one beating slowly and less strongly, and suprarenal extract produces rapid and strong contractions. The subject is one which requires further examination, and, in fact, has been again studied in my laboratory by the method employed by Langendorff. Although not at the present moment prepared to make a definite pronouncement upon the question in all its aspects, I can, at any rate, state that we have never yet succeeded in obtaining the dilatation of a transverse strip of coronary artery (such as is represented by Langendorff) when pure suprarenal extract or adrenin unmixed with any other drug is added to the oxygenated Ringer solution, in which the strip of artery is immersed. It is, perhaps, possible that the contrary result obtained by Langendorff may have been due to the presence of some other substance than adrenin in the solution used by him. A pathological effect which has been noticed (Josué, 1903) as the result of repeated injections of adrenin into the auricular vein of the rabbit is a degenerated condition of the wall of the larger arteries, especially of the aorta (arterio-sclerosis). This effect is not peculiar to adrenin but is produced by other blood pressure-raising substances, such as digitalin and nicotine. The effect is seen also, according to Toropoff (1908), in the pulmonary artery. An account of these changes was given by Dr. H. Batty Shaw in his Goulstonian lectures in 1906, so that it is unnecessary for me to dwell further upon them.

CONCLUSION.

All this leaves our knowledge of the action of the *cortex* of the capsules very much in the position which it occupied 40 years ago—indeed, one may even say in the position it occupied in the time of Montesquieu. It is certain that we cannot as yet allocate any definite function to the cortical cells. Nevertheless, we cannot doubt that they possess a function, and an important one. Of the two parts of the gland, the cortical is the most constant in the vertebrate sub-kingdom. It is relatively best developed in late fœtal and in early extra-uterine life when growth and differentiation are proceeding rapidly; it is present during the whole of life, and there is no evidence that it undergoes any atrophic changes with age. It is impossible even to say that it is functionally related to the medulla, although its close topographical connexions with that structure in most animals—and the closer the higher we proceed in the scale of organisation—seem to betoken some functional nexus. A relationship to the development of the generative organs has been suggested on the ground that in cases of precocious sexuality the suprarenal capsules—presumably the cortex—have been found hypertrophied (Wooley, 1902; Bulloch and Sequeira, 1905). A resemblance between the cells of the cortex and those of the corpus luteum of the ovary has been frequently pointed out, but this may be merely superficial. It has been recently more particularly insisted upon by Kinlon (1906). It has also been suggested that the suprarenal cortex has antidotal properties for certain poisons, such as snake venom (Myers, 1907).

Biedl states that he has been able to remove the cortex, leaving the medulla intact, and that the operation was followed by the death of the animals; but I think the experience of most people would lead them to believe such a separation to be impossible. And, as I have already stated, Vincent did not find removal of the inter-renal body in the eel—which undoubtedly represents in that animal the cortex of the mammalian organ—to be fatal. That the cortical cells are internally secreting structures is pointed to by their epithelium-like appearance and the richness of the arterial blood-supply of this part of the organ. Ciaccio (1906) has described in the cells what he regards as evidences of secretory activity, such as are met with in the cells of ordinary secreting glands. But even without direct evidence it is difficult not to believe that the cortical cells produce an internal secretion, which is either taken up by the blood or is otherwise conveyed away from the cell columns. It is open to us to suppose that these may initiate the preparation of the internal secretion (adrenin) of the medulla, or that they may prepare an enzyme which completes the formation of that substance. The experiments of Abelous, Soulié, and Tougan (1905) are confirmatory of this suggestion but do not carry conviction. On the other hand, there are both anatomical and pathological reasons for believing that the internal secretion of the cortex is independent of that of the medulla and produces quite different effects in the organism.

According to Della Vida (1904) cytotoxic serums prepared from the two parts of the gland are only toxic for their respective parts. That the suprarenals are related in some way to metabolic changes in the tissues and organs there can be little doubt. This is indicated by the symptoms of Addison's disease. Some of these symptoms can be referred to the absence of medullary secretion. But others, such as the extreme wasting (when not due to general tuberculosis) and the malnutrition which is expressed in the abnormal pigmentation of the skin and mucous membrane, are not readily referred to the medulla, and are probably the result of disease of the cortex. In assuming that the cortex of the organ subserves through its internal secretion certain functions connected with metabolism we have an analogy with what is known regarding the pituitary body. In this, again, we find an instance of a small ductless gland, partly epithelio-nervous, and partly purely epithelial in structure and origin, the two parts having different functions, although bound up together into a single organ. Of the two parts, the nervous part, as in the suprarenals, produces a substance or substances such as it is now customary to term "hormones," which influence the circulatory organs and certain externally secreting glands—in the case of the suprarenals it is salivary glands, in the case of the pituitary it is the kidneys which are especially stimulated to secretion. The purely epithelial part of the pituitary, on the other hand, is closely connected with the growth and nutrition of certain of the connective tissues and especially of the bones, hyperplasia of the organ being accompanied by symptoms of gigantism and acromegaly. It seems, therefore, that from analogy we have some justification for inferring that the cortex of the suprarenals may yield a hormone which influences the growth and nutrition of certain tissues and organs. One might even be permitted to suggest that the integumentary tissues and the generative organs—with the relative development of which it is manifestly correlated—are directly under its influence. But I am getting away from the subject of my lectures and substituting for what is known regarding the functions of the suprarenals what is only conjectural. The digression is fascinating, but time will not allow me to pursue it. Perhaps within the next few years a successor of mine in this lectureship will be able to put before you as much positive knowledge regarding the cortex as we now possess regarding the medulla, the function of which seemed, no more than 15 years ago, as obscure as that of the cortex appears at present. And with the hope that this obscurity may speedily be removed, I cannot do better than terminate my discourse.

THE DRAINAGE OF DAWLISH (DEVON).—At a meeting of the Dawlish urban district council held on May 21st a scheme was adopted for modernising the whole of the drainage of the town. The cost of the undertaking is estimated at about £4000.

ON THE PREPARATION AND USE OF ANTIRABIC SERUM,

AND ON THE RABICIDAL PROPERTIES OF THE SERUM OF PATIENTS AFTER UNDERGOING ANTIRABIC TREATMENT; ALSO A NOTE ON THE BLOOD OF A PATIENT SUFFERING FROM HYDROPHOBIA.[1]

BY D. SEMPLE, M.D., M.CH. R.U.I., D.P.H. CANTAB.,
LIEUTENANT-COLONEL, R.A.M.C. (RETIRED); DIRECTOR OF THE CENTRAL RESEARCH INSTITUTE OF INDIA.

I.—ON THE PREPARATION AND USE OF ANTIRABIC SERUM.

THE idea of utilising the blood of an animal immunised with rabies virus to protect other animals against the disease was first put forward by Babes and Lepp in 1889. A few years later (1891) Babes and Carchez, experimenting with dogs, demonstrated that the blood of these animals when highly immunised was capable of protecting other dogs against the experimental inoculation of rabies, and in those not protected the incubation period was prolonged. They also proved that immune blood was capable of destroying rabies virus *in vitro*. It appears that Babes used the immune blood of man and dogs to treat some 12 cases severely bitten about the head by a rabid wolf. Of the 12 persons treated in this way there was one death. In severe cases he advocated mixed treatment—that is, the injection of immune serum in addition to Pasteur's treatment. Tizzoni and his fellow workers prepared an antirabic serum by immunising sheep with fixed virus attenuated by treatment with gastric juice. For this serum they claimed both prophylactic and curative properties and recommended its use in persons severely bitten about the head and face or in those coming late for treatment. Marie came to the conclusion that a prolonged period of vaccination in mammals was required in order to produce an active serum. Notwithstanding the experimental evidence produced by Babes, Tizzoni, and others in favour of antirabic serum, the subject has not attracted much attention and the use of the serum in antirabic institutes has, practically speaking, gained no headway, Pasteur's method of treatment being still universally employed.

TABLE I.—*Experiments to illustrate the Rabicidal Effect on Fixed Virus of the Serum of a Pony Highly Immunised against Rabies.*

No. of experiment.	Date of experiment.	Age of serum.	Proportion of serum and virus mixed.	Time and temperature serum and virus in contact.	Quantity inoculated.	Animal inoculated.	Method of inoculation.	Results.
1	1903. June 23rd.	24 hours.	Serum 1 vol. Virus 2 vols. 5% emulsion.	10 minutes at room temperature, about 20° C.	0 2 c.c.	Rabbit full grown.	Sub-dural.	Alive and well Sept. 1st.
2	Nov. 6th.	"	"	"	"	"	"	Alive and well three months after experiment.
3	"	"	"	"	"	"	"	
4	"	"	"	"	"	"	"	"
5	"	"	Serum 1 vol. Virus 3 vols. 5% emulsion.	"	"	"	"	"
6	"	"	Serum 1 vol. Virus 7 vols. 5% emulsion.	"	"	"	"	Developed rabies on the ninth day.
7*	"	"	Normal horse. Serum 1 vol. Virus 1 vol. 5% emulsion.	"	"	"	"	Developed rabies on the seventh day.
8*	"	"	"	24 hours at room temperature about 20° C.	"	"	"	"

* Control.

Remarks.—From the control Experiments 7 and 8 it will be seen that normal horse serum is devoid of rabicidal properties when mixed *in vitro* with an equal volume of fixed rabies.

Although the causal agent of rabies has not yet been discovered, the majority of the facts which we do know in connexion with the virus point to the probabilities of its being a germ and not a toxin; we are therefore more likely to be right in assuming that the serum of an immune animal is antimicrobic rather than antitoxic. Should this assumption turn out to be correct we are not likely to derive more than a limited benefit from any antirabic serum, no matter how highly the animal supplying it has been immunised. On the other hand, as pointed out by Babes and Tizzoni, its uses may lie in the direction of enabling us to grapple more successfully with the treatment of severely bitten and late cases when given as an adjunct to the ordinary method of treatment.

With this object in view, when director of the Pasteur Institute of India, I prepared a serum in 1902-03-04, and after satisfying myself that it possessed marked rabicidal properties when mixed with fixed virus I decided to use it as a preliminary to the usual method of treatment in severely bitten and late cases where there was good evidence to believe that the animals which inflicted the bites suffered from rabies. In these cases my object was to confer as high a degree of immunity as I possibly could, and within the shortest period of time. An active immunity such as is acquired by a patient who undergoes the ordinary method of antirabic treatment takes some time to become established, but a passive immunity such as is conferred by using the serum of an animal highly immunised can be acquired very quickly. In the former case the duration of immunity is long compared with the latter, a passive immunity being easily acquired and soon got rid of again. It is thus possible to give badly bitten and late cases the benefits of a passive immunity, pending the acquirement of a more durable active immunity resulting from the inoculation of rabies virus.

Young healthy ponies were the animals used in the preparation of the serum. Their immunity was accomplished by inoculating them first of all with attenuated fixed virus, commencing with the 14-day dried cord of a rabbit, and continuing the treatment daily by going down the series of attenuated cords until a 3 day cord was given. After this an 8 day cord was given, and the series again gone down by giving a larger dose every second day until a fresh cord was reached. The treatment was then put back to a 4-day cord and doses of increasing strength given every fourth day until a fresh cord was again reached. Immunisation was now continued by giving increasing doses of fresh fixed virus at intervals of from 10 to 15 days until the amount of virus represented by the fresh brains and medullæ of two rabbits of the series used to keep up rabies vaccine for the institute was given. This took about eight months to accomplish. Immunity was then kept up by repeating these large doses every four or five weeks. Blood was never drawn off sooner than 14 days after one of these large doses, more often 18 to 21 days after.

The serum when tested by mixing with fixed virus was found to have the property of rapidly destroying its virulence and rendering it harmless to rabbits when inoculated subdurally. When given hypodermically and in large doses to dogs and rabbits, before and after the subdural inoculation of fresh fixed virus, it had no appreciable effect in warding off the subsequent onset of rabies in these animals. This, however, is a very severe test and probably more than we can ever expect any antirabic serum to combat successfully, owing to the fact of the virus being directly implanted on to its specific germinating ground, the central nervous system; but it does not follow from this that it would fail in preventing or retarding the onset of rabies when infection took place by the bites of rabid animals.

---

[1] The experiments detailed in this paper were carried out by me at the Pasteur Institute of India, Kasauli, during the years 1903-04-05, when I was director of that institute.

The experiments detailed in Tables I. and II. make clear the above statements as to its rabicidal powers *in vitro* and its failure to prevent rabies when given hypodermically before and after the subdural inoculation of fresh fixed virus. In Table I. it will be seen that 1 volume of serum destroyed the virus in 3 volumes of a 5 per cent. emulsion of fresh fixed virus, but when the proportion of the virus was increased to 7 volumes the incubation period was only prolonged two days. In Table II. it will be seen that an equally potent serum failed to protect dogs when the virus was given subdurally and the serum hypodermically, although the doses of serum were large for animals weighing only about 12 pounds—*viz.*, 20 cubic centimetres for four days before and two days after the subdural inoculation of fresh fixed virus.

TABLE II.—*To Test whether Antirabic Serum has any Effect in Preventing the Onset of Rabies when the Serum is given Hypodermically and the Virus Subdurally.*

1903.

Experiment 1.

Dog, medium size (about 6 kilogrammes).
July 16th, 20 c.c. serum hypodermically.
,, 17th ,, ,, ,,
,, 19th ,, ,, ,,
,, 20th ,, ,, ,,
,, ,, Inoculated subdurally with fixed virus.
,, 21st. 20 c.c. serum hypodermically.
,, 23rd ,, ,, ,,
,, 30th. Commencing rabies *tenth day.*
August 3rd. Died from rabies.

Experiment 2.

Dog, medium size (about 6 kilogrammes).
Treated exactly as Experiment 1 and on the same dates.
August 2nd. Commencing rabies *twelfth day.*
,, 8th. Died from rabies.

Experiment 3 (control).

Dog, medium size (about 6 kilogrammes).
Not given any serum.
July 20th. Inoculated subdurally with fixed virus.
,, 29th. Commencing rabies *ninth day.*
August 1st. Died from rabies.

Experiments 1 and 2 go to prove that antirabic serum given hypodermically before and after the subdural inoculation of fixed virus in dogs has no appreciable effect in preventing the subsequent onset of rabies. Similar experiments were tried in a series of some eight or ten rabbits and in no instance had the serum any appreciable effect in warding off the onset of rabies when given hypodermically before and after the inoculation of virus subdurally.

In an experiment of this kind the pre-incubation period is done away with, and the virus immediately after being inoculated is on a soil eminently suited for its incubation and growth. I may here explain the meaning which we now attach to the terms *pre-incubation period* and *incubation period* when used in reference to rabies virus. By *pre-incubation period* is meant the time occupied by the virus in reaching the nerve centres from the seat of the infection—i.e., the period during which the virus grows along the nerves from the seat of the bites inflicted by a rabid animal until it reaches the nerve centres, when the true incubation period begins. By *incubation period* is meant the period which elapses between the time the virus comes in contact with the nerve centres and the onset of the first symptoms of the disease. An example may make this plainer. When the virus from a rabid dog (street virus) is inoculated subdurally in a rabbit a period of 14 days as a rule elapses before any symptoms set in. This is the incubation period for *street virus.* When Pasteur's fixed virus is inoculated subdurally in rabbits no symptoms appear until the seventh day. This is the incubation period for fixed virus.

The *pre-incubation period* is a very variable time and depends on several factors, such as individual susceptibility, quantity of virus inoculated, number and extent of the wounds, and whether in close proximity to the nerve centres; also whether few or many nerve fibres or large nerves are infected. These are factors which are bound to vary in every case of a bite by a rabid animal and on this account the pre-incubation period must also vary. We know that the incubation period as defined above is within narrow limits always a fixed time, but when added to a varying pre-incubation period we get a period of time elapsing between the infliction of a bite by a rabid animal and the onset of rabies or hydrophobia which can never be the same in any two cases. There are no symptoms to indicate either of these periods.

The pre-incubation and incubation periods taken together are often referred to as the incubation period for rabies virus, but from theoretical and practical points of view the distinction is of importance, owing to the fact that it is only during the pre-incubation period of the virus that prophylactic treatment can prove successful. Hence the necessity and importance of early treatment.

The seat of election of rabies virus is nerve tissue and the specific germinating ground the central nervous system. Once the virus has commenced to multiply in large nerve trunks as a result of wound infection it is doubtful whether ordinary treatment would be of any avail in preventing the onset of the disease. We know that when the virus is inoculated on the surface of the brain treatment of any kind is useless. On the other hand, we know that when infection takes place by the bite of a rabid animal early treatment by Pasteur's method is almost invariably successful. In a brain infection it is impossible to prevent the disease by early treatment.

An example intermediate between these two extremes would be a wound infection in which treatment had not been commenced until several weeks had elapsed. In a case of this kind we should have to assume that the virus had grown beyond the vicinity of the wound and had infected nerve trunks between the wounds and nerve centres. These are the cases which furnish the highest percentage of failures. Now the question arises, Would serum treatment followed by the ordinary treatment give a higher percentage of success in such cases? In the solution of this problem one of the first points to settle would be whether treatment with antirabic serum alone has any effect in warding off the disease in the case of animals bitten by other rabid animals. Many difficulties come in the way of answering this question satisfactorily, the main difficulties being the uncertainty of the disease supervening in a number of cases even without treatment of any kind and the possibility of a very prolonged pre-incubation period in others. In order to overcome these difficulties observations would have to be made in a large number of infected animals and for an extended period of time, some being treated with serum and the others not. In the absence of some definite basis of this kind one would not feel justified in treating human beings by the serum method only.

In the summer of 1904 I treated two infected animals by antirabic serum only. One, a dog severely bitten on the shoulders and ear by another dog subsequently proved rabid. Four days after being bitten 30 cubic centimetres of serum were injected into the tissues in the vicinity of the bites and the dog remained free from rabies for a year, when it was again bitten by a rabid dog and contracted rabies two months afterwards. No treatment was given after the second bites. The other animal treated was a horse, severely bitten on the hind leg by a rabid dog. 100 cubic centimetres of serum were injected hypodermically on the side of the neck ten days after the bites. Two months afterwards the horse developed rabies. 100 cubic centimetres of serum were probably a small dose for such a large animal.

During the years 1903-04, when director of the Pasteur Institute of India, I treated 202 patients with antirabic serum as a preliminary to the usual method of treatment. These were cases selected either because they were severely bitten or came late for treatment, and where there was good evidence to believe that the animals which inflicted the bites were rabid. In the majority of these cases 10 cubic centimetres of serum were given hypodermically when they presented themselves for treatment, and next day the usual treatment was proceeded with. In some of the cases the serum treatment was repeated on the second day, and the usual treatment proceeded with on the third day.

Of the 202 cases treated in this way three were failures;

TABLE III.—*Experiments to Test the Effects on Fixed Rabies Virus of the Serum of a Patient after Undergoing the Ordinary Course of Antirabic Treatment for 22 Days. Serum and Virus (1 per cent. Emulsion) Mixed in Equal Volumes and Inoculated Subdurally in Healthy Full-grown Rabbits.*

No. of experiment.	Date of experiment.	Time after completion of treatment when serum was tested.	Proportion of serum and virus mixed.	Time and temperature serum and virus in contact before inoculation.	Quantity inoculated.	Date of commencing paralysis.	Incubation period.	Results.
	1905.							
1	April 17th.	1 day.	Serum 1 vol. 24 hours old virus 1 vol. 1% emulsion.	1 hour; 37° C.	0·15 c.c.	April 28th.	11 days.	Incubation period prolonged four days.
2	" 18th.	2 days.	"	"	"	—	—	Died April 26th. No paralysis before death. A portion of the medulla used to inoculate another rabbit subdurally failed to give it rabies.
3	" 19th.	3 "	"	"	"	—	—	Was apparently quite well on April 26th. Found dead in cage on April 27th. A portion of the medulla inoculated subdurally into another rabbit failed to convey rabies.
3*	" 28th.	3 "	Serum 1 vol. 10 days in ice chest. Virus 1 vol. 1% emulsion.	"	"	May 9th.	11 days.	Incubation period prolonged four days.
4	" 20th.	4 "	Serum 1 vol. 24 hours old virus 1 vol. 1% emulsion.	"	"	—	—	Alive and well on May 25th, 35 days after the experiment. *Experiment off.*
5	" 21st.	5 "	"	"	"	—	—	Alive and well on May 25th, 34 days after the experiment. *Experiment off.*
6	" 22nd.	6 "	"	"	"	May 2nd.	10 days.	Incubation period prolonged three days.
7	" 23rd.	7 "	"	"	"	" 3rd.	"	Incubation period prolonged three days.
8	" 24th.	8 "	"	"	"	" 6th.	12 days.	Incubation period prolonged five days.
9	" 25th.	9 "	"	"	"	—	—	Apparently quite well on June 2nd, 38 days after the experiment; after this it began to waste. No paralysis. Died June 15th.
10	" 26th.	10 "	"	"	"	—	—	Apparently quite well on June 2nd, 37 days after the experiment; after this it began to waste. No paralysis. Died June 10th.
11	" 27th.	11 "	"	"	"	May 6th.	9 days.	Incubation period prolonged three days.
12	" 28th.	12 "	"	"	"	—	—	Alive and well on June 24th, 57 days after the experiment. *Experiment off.*
13	" 29th.	13 "	"	"	"	—	—	Alive and well June 16th, 48 days after the experiment. Found dead in cage June 17th. No paralysis.
14	" 30th.	14 "	"	"	"	May 11th.	11 days.	Incubation period prolonged four days.
15	May 1st.	15 "	"	"	"	—	—	Alive and well June 30th, 60 days after the experiment. *Experiment off.*
16	" 2nd.	16 "	"	"	"	May 11th.	9 days.	Incubation period prolonged two days.
17	" 3rd.	17 "	"	"	"	—	—	Alive and well June 30th, 57 days after the experiment. *Experiment off.*
18	" 4th.	18 "	"	"	"	—	—	Alive and well June 11th, 38 days after the experiment; after this wasting set in. No paralysis. Died June 15th.
19	" 5th.	19 "	"					
20	" 6th.	20 "	"	"	"	May 15th.	10 days.	Incubation period prolonged three days.
21	" 7th.	21 "	"	"	"	June 18th.	43 "	Incubation period prolonged 36 days.
				"	"	—	—	Apparently well on June 11th, 35 days after the experiment. Found dead in cage June 12th.
22	" 14th.	28 "	"	"	"	May 23rd.	9 days.	Incubation period prolonged two days.

* Repeated with serum kept in ice chest since April 18th.

Remarks.—Of these 22 experiments 11 developed rabies. The shortest period of incubation was nine days and the longest 43 days. Average 13·5 days, as compared with seven days, the normal period of incubation for fixed virus. Of the remaining 12 experiments five remained healthy and seven died at periods varying from eight to 48 days after the experiments. Three of these seven fatal cases showed symptoms of wasting before death and four died suddenly, being apparently well the day before.

one contracted hydrophobia during treatment and one within 14 days after the completion of treatment. The average time which elapsed between the infliction of the bites and commencement of treatment in these 202 cases was 10·3 days. In a number of the worst cases of all serum was injected into and around the wounds and none of these proved failures. Owing to the fact that serum treatment was followed by the ordinary treatment one cannot say for certain whether any real benefit was derived from the use of the serum, but taking into consideration the severity of these cases the probabilities are that the preliminary treatment with serum was instrumental in saving some of them from hydrophobia.

In the absence of any more definite proof as evidenced by a more extended trial one cannot say anything more in favour of the serum except that it may turn out to be a valuable first dressing to apply to the wounds produced by rabid animals soon after their infliction, in addition to being inoculated into the tissues in their vicinity.

To sum up, its uses are likely to be in the following directions: 1. As an adjunct to the usual treatment in severely bitten and late cases. 2. Direct and early application to the wounds produced by rabid animals. 3. Injection into the tissues in the vicinity of the bites.

II.—THE RABICIDAL PROPERTIES OF THE SERUM OF PATIENTS AFTER UNDERGOING ANTIRABIC TREATMENT.

Knowing that the serum of an animal highly immunised against rabies possesses in a marked degree the property of

TABLE IV.—*Experiments to Test the Effects on Fixed Rabies Virus of the Serum of a Patient after Undergoing a Light Course of Antirabic Treatment for 18 Days. A Light Course was Indicated in this Case on Account of the Patient's Alcoholic Habits. Serum and Virus (1 per cent. Emulsion) Mixed in Equal Volumes and Inoculated Subdurally in Healthy, Full-grown Rabbits.*

No. of experiment.	Date of experiment.	Time after completion of treatment when serum was tested.	Proportion of serum and virus mixed.	Time and temperature serum and virus in contact before inoculation.	Quantity inoculated.	Date of commencing paralysis.	Incubation period.	Results.
1	1905. May 4th.	3 days.	Serum 1 vol. 24 hours old virus 1 vol. 1% emulsion.	1 hour; 37° C.	0·15 c.c.	May 13th.	9 days.	Incubation period prolonged two days.
2	" 7th.	6 "	"	"	"	" 15th.	"	Incubation period prolonged one day.
3	" 9th.	8 "	"	"	"	—	—	Alive and well June 30th, 52 days after the experiment. *Treatment off.*
4	" 10th.	9 "	"	"	"	May 18th.	8 days.	Incubation period prolonged one day.
5	" 11th.	10 "	"	"	"	June 1st.	21 "	Incubation period prolonged 14 days.
6	" 12th.	11 "	"	"	"	May 19th.	7 "	Incubation period normal for fixed virus.
7	" 13th.	12 "	"	"	"	—	—	Alive and well June 30th, 48 days after the experiment. *Treatment off.*
8	" 14th.	13 "	"	"	"	May 22nd.	8 days.	Incubation period prolonged one day.
9	" 15th.	14 "	"	"	"	" 23rd.	8 "	" " "
10	" 16th.	15 "	"	"	"	" 25th.	9 "	Incubation period prolonged two days.

Remarks.—Of these ten experiments eight developed rabies and two remained healthy. The shortest period of incubation was seven days and the longest 21 days. Average 9·7 days, as compared with 7 days, the normal period for fixed virus.

TABLE V.—*Experiments to Test the Effects on Fixed Rabies Virus of the Serum of a Patient after Undergoing a Very Light Course of Antirabic Treatment lasting only 10 Days. Serum and Virus (1 per cent. Emulsion) Mixed in Equal Volumes and Inoculated Subdurally in Healthy Full-grown Rabbits.*

No. of experiment.	Date of experiment.	Time after completion of treatment when serum was tested.	Proportion of serum and virus mixed.	Time and temperature serum and virus in contact before inoculation.	Quantity inoculated.	Date of commencing paralysis.	Incubation period.	Results.
1	1905. May 7th.	1 day.	Serum 1 vol. 24 hours old virus 1 vol. 1% emulsion.	1 hour; 37° C.	0·15 c.c.	May 16th.	9 days	Incubation period prolonged two days.
2	" 8th.	2 days.	"	"	"	" 17th.	"	" " "
3	" 9th.	3 "	"	"	"	" 17th.	8 days.	Incubation period prolonged one day.
4	" 10th.	4 "	"	"	"	" 18th.	"	" " "
5	" 11th.	5 "	"	"	"	—	—	Alive and well June 24th, 44 days after the experiment. Died June 29th. Wasting before death. *No paralysis.*
6	" 12th.	6 "	"	"	"	—	—	Alive and well June 30th, 49 days after the experiment. *Experiment off.*
7	" 13th.	7 "	"	"	"	May 21st.	8 days.	Incubation period prolonged one day.
8	" 14th.	8 "	"	"	"	—	—	Alive and well June 20th, 37 days after the experiment. Died June 22nd. Began to waste before death. No paralysis.
9	" 15th.	9 "	"	"	"	May 27th.	12 days	Incubation period prolonged five days.
10	" 16th.	10 "	"	"	"	" 24th.	8 "	Incubation period prolonged one day.
11	" 17th.	11 "	"	"	"	June 28th.	11 "	Incubation period prolonged four days.
12	" 18th.	12 "	"	"	"	—	—	Alive and well June 11th, 24 days after the experiment. Died June 14th. Wasting before death. *No paralysis.*
13	" 19th.	13 "	"	"	"	May 27th.	8 days.	Incubation period prolonged one day.
14	" 20th.	14 "	"	"	"	" 28th.	"	" " "
15	" 21st.	15 "	"	"	"	" 31st.	10 days.	Incubation period prolonged three days.
16	" 22nd.	16 "	"	"	"	" 31st.	9 "	Incubation period prolonged two days.
17	" 23rd.	17 "	"	"	"	" 31st.	8 "	Incubation period prolonged one day.
18	" 24th.	18 "	"	"	"	June 1st.	"	" " "
19	" 25th.	19 "	"	"	"	—	—	Alive and well June 30th, 36 days after the experiment. *Experiment off.*
20	" 26th.	20 "	"	"	"	June 3rd.	8 days	Incubation period prolonged one day.

Remarks.—Of these 21 experiments 16 developed rabies. The shortest incubation period was eight days and the longest 12 days. Average 8·8 days, as compared with 7 days, the normal period of incubation for fixed virus. Of the remaining five experiments two remained healthy and three died at periods varying from 27 to 49 days after the experiments, showing symptoms of wasting before death.

destroying rabies virus *in vitro*, it is only reasonable to expect that the serum of a patient after undergoing antirabic treatment should also possess similar properties, but not necessarily in such a marked degree as in the case of an animal specially and more highly immunised. If this be true, there should be no difficulty in testing the rabicidal action of the serum of a treated person on living rabies virus, because on the completion of a successful course of antirabic treatment an active immunity against rabies has been acquired, an immunity which is in all probability germicidal rather than antitoxic, as evidenced by the action of the serum of an immunised animal on fresh fixed virus. The subject is important from a practical point of view, because it opens up the possibility of testing the efficacy of antirabic treatment in any particular case. In the event of the serum of a patient on completion of treatment giving evidence of a well-marked rabicidal action one would feel justified in inferring that his immunity was of a high order. A patient whose serum when mixed with fresh fixed virus and inoculated subdurally in rabbits failed to cause any delay in the incubation period of rabies might well be looked upon as a person having a low degree of immunity or possibly none at all. In a case of this kind further treatment would be indicated.

When testing the serum of a patient immediately on completion of treatment it is doubtful whether we should have to take into consideration the possibility of a negative phase. When we examine the conditions under which patients are treated it is difficult to believe that a negative phase ever does occur in this particular method of immunisation. Patients undergoing antirabic treatment are given one or two doses of rabies virus daily for a fortnight or three weeks, and sometimes longer. Under these conditions a negative phase occurring early in the treatment would become cumulative, a condition which would be incompatible with the main object of treatment—viz., to confer a high degree of immunity in the shortest possible period of time. The explanation is probably due to the fact of the daily doses being just sufficient to bring about a reaction capable of stimulating the production of antibodies, and that the immunity thus induced increases daily from the time treatment is commenced. On this assumption we would get an accumulation of antibodies and not a cumulative negative phase. The reverse of this would mean failure, a result which in practice we know to be quite the exception.

TABLE VI.—*Experiments to Test the Effects on Fixed Rabies Virus of the Serum of a Patient after Undergoing Antirabic Treatment for 24 Days but not by the Intensive Method. Serum and Virus (1 per cent. Emulsion) Mixed in Equal Volumes and Inoculated Subdurally in Healthy Full-grown Rabbits.*

No. of experiment.	Date of experiment.	Time after completion of treatment when serum was tested.	Proportion of serum and virus mixed.	Time and temperature serum and virus in contact before inoculation.	Quantity inoculated.	Date of commencing paralysis.	Incubation period.	Results.
1	1905. May 16th.	3 days.	Serum 1 vol. 24 hours old virus 1 vol. 1% emulsion.	1 hour; 37° C.	0·15 c.c.	—	—	Alive and apparently well on July 4th, 50 days after the experiment. Found dead in cage July 5th. No paralysis before death.
2	,, 17th.	4 ,,	,,	,,	,,	May 28th.	11 days.	Incubation period prolonged four days.
3	,, 18th.	5 ,,	,,	,,	,,	—	—	Alive and well June 30th, 43 days after the experiment. *Experiment off.*
4	,, 19th.	6 ,,	,,	,,	,,	—	—	Alive and well June 30th, 42 days after the experiment. *Experiment off.*
5	,, 20th.	7 ,,	,,	,,	,,	June 7th.	17 days.	Incubation period prolonged ten days.
6	,, 21st.	8 ,,	,,	,,	,,	—	—	Alive and well June 30th, 40 days after the experiment. *Experiment off.*
7	,, 22nd.	9 ,,	,,	,,	,,	May 31st.	9 days.	Incubation period prolonged two days.
8	,, 23rd.	10 ,,	,,	,,	,,	June 2nd.	10 ,,	Incubation period prolonged three days.
9	,, 24th.	11 ,,	,,	,,	,,	,, 3rd.	10 ,,	,, ,, ,,
10	,, 25th.	12 ,,	,,	,,	,,	—	—	Alive and well June 30th, 36 days after the experiment. Died July 1st. No paralysis before death.
11	,, 26th.	13 ,,	,,	,,	,,	June 18th.	23 days.	Incubation period prolonged 16 days.
12	,, 27th.	14 ,,	,,	,,	,,	,, 6th	10 ,,	Incubation period prolonged three days.
13	,, 28th.	15 ,,	,,	,,	,,	,, 10th.	13 ,,	Incubation period prolonged six days.
14	,, 29th.	16 ,,	,,	,,	,,	—	—	Alive and well June 30th, 32 days after the experiment. *Experiment off.*
15	,, 30th.	17 ,,	,,	,,	,,	—	—	Alive and well June 30th, 31 days after the experiment. *Experiment off.*
16	,, 31st.	18 ,,	,,	,,	,,	—	—	Alive and well June 12th, 12 days after the experiment. Found dead in cage June 13th. No paralysis before death.
17	June 1st.	19 ,,	,,	,,	,,	July 5th.	34 days.	Incubation period prolonged 27 days.
18	,, 2nd.	20 ,,	,,	,,	,,	—	—	Alive and well June 30th, 28 days after the experiment. *Experiment off.*
19	,, 3rd.	21 ,,	,,	,,	,,	—	—	Alive and well June 30th, 27 days after the experiment. *Experiment off.*
20	,, 4th.	22 ,,	,,	,,	,,	June 17th.	13 days.	Incubation period prolonged six days.

Remarks.—Of these 20 experiments 10 developed rabies. The shortest incubation period was nine days and the longest 34 days. Average 15 days, as compared with 7 days, the normal incubation period for fixed virus. Of the remaining 10 experiments, seven remained healthy and three died suddenly at periods varying from 13 to 51 days after the experiment, being apparently well the day before.

Procedure Adopted.

A uniform line of procedure was adhered to throughout, and only fixed virus was used as a test for the serum. Strict aseptic precautions were observed. The blood was taken from the finger, filled into glass capsules, allowed to clot, and placed in a dark cupboard at room temperature (about 22° C.) for 24 hours. The virus was obtained daily from the fresh medulla of one of the rabbits of the series the cord of which was used for the preparation of vaccine at the institute. For each experiment the virus was taken from the medulla of a different rabbit, and only from an animal which had died from rabies that day. A small portion of the medulla was removed, carefully weighed, then finely emulsified in a conical glass with a measured quantity of sterile normal salt solution, so as to make a 1 per cent. or 5 per cent. emulsion, as the case might be. When the emulsion had stood for from 10 to 15 minutes so as to allow any heavy particles to fall to the bottom a measured amount was pipetted off from the upper part and well mixed with an equal volume of clear serum. The mixture of the virus and the serum was then placed in an incubator at a temperature of 37° C. for one hour and when taken out was again well mixed before being filled into the inoculating syringe. Healthy full-grown rabbits were used in all cases and the inoculations were carried out subdurally after trephining in the usual way. Daily observations were made on each experiment.

TABLE VII.—*Experiments to Test the Effects on Fixed Rabies Virus of the Serum of a Patient after Undergoing the Ordinary Course of Antirabic Treatment lasting 20 Days. Serum and Virus (1 per cent. Emulsion) Mixed in Equal Volumes and Inoculated Subdurally in Healthy Full-grown Rabbits.*

No. of experiment.	Date of experiment.	Time after completion of treatment when serum was tested.	Proportion of serum and virus mixed.	Time and temperature serum and virus in contact before inoculation.	Quantity inoculated.	Date of commencing paralysis.	Incubation period.	Results.
	1905.							
1	May 23rd.	1 day.	Serum 1 vol. 24 hours old virus 1 vol. 1% emulsion.	1 hour; 37° C.	0·15 c.c.	June 2nd.	10 days.	Incubation period prolonged three days.
2	„ 24th.	2 days.	„	„	„	„ 3rd.	10 „	„ „ „
3	„ 25th.	3 „	„	„	„	—	—	Was quite well June 16th, 23 days after the experiment. Was ill June 17th (stomach swollen) and died on June 18th. No paralysis.
4	„ 26th.	4 „	„	„	„	—	—	Died June 10th. No paralysis before death. Was removed before an experiment could be made with the medulla.
5	„ 27th.	5 „	„	„	„	—	—	Alive and well June 30th, 34 days after the experiment. *Experiment off.*
6	„ 28th.	6 „	„	„	„	—	—	Alive and well June 30th, 33 days after the experiment. *Experiment off.*
7	„ 29th.	7 „	„	„	„	June 7th.	9 days.	Incubation period prolonged two days.
8	„ 30th.	8 „	„	„	„	—	—	Alive and well June 17th, 17 days after the experiment. Died June 18th. No paralysis before death.
9	„ 31st.	9 „	„	„	„	June 12th.	12 days.	Incubation period prolonged five days.
10	June 1st.	10 „	„	„	„	—	—	Alive and well June 30th, 29 days after the experiment. *Experiment off.*
11	„ 2nd.	11 „	„	„	„	—	—	Alive and well June 30th, 28 days after the experiment. *Experiment off.*
12	„ 3rd.	12 „	„	„	„	June 14th.	11 days.	Incubation period prolonged four days.
13	„ 4th.	13 „	„	„	„	„	10 „	Incubation period prolonged three days.
14	„ 6th.	15 „	„	„	„	„	8 „	Incubation period prolonged one day.
15	„ 7th.	16 „	„	„	„	June 17th.	10 „	Incubation period prolonged three days.
16	„ 9th.	18 „	„	„	„	—	—	Alive and well June 30th, 21 days after the experiment. *Experiment off.*
17	„ 10th.	19 „	„	„	„	June 20th.	10 days.	Incubation period prolonged three days.
18	„ 11th.	20 „	„	„	„	—	—	Alive and well June 30th, 19 days after the experiment. *Experiment off.*
19	„ 12th.	21 „	„	„	„	—	—	Alive and well June 30th, 18 days after the experiment. *Experiment off.*

Remarks.—Of these 19 experiments nine developed rabies. The shortest incubation period was eight days and the longest 12 days. Average 10 days, as compared with 7 days, the normal incubation period for fixed virus. Of the remaining 10 experiments seven remained healthy and three died suddenly at periods varying from 15 to 25 days after the experiment.

On analysing the results of these experiments it will be noticed that the animals inoculated may be divided into two classes: (1) those that developed rabies and (2) those that did not develop rabies. In the former class the animals showed unmistakable symptoms of rabies and died from that disease. In the latter class some died and others remained healthy. In those that died in Class 2 none showed any symptoms of paralysis but some gradually wasted before death and others died suddenly without any wasting. It is just possible that many of the deaths in Class 2 were due to the neurotoxic action of the serum on the brain.

When we analyse the conditions under which the patients who supplied the serum were immunised—viz., with the spinal cords of rabbits—an immune serum produced under these conditions must necessarily contain antibodies capable of giving rise to cytolytic action on the nerve-centres of rabbits. That the symptoms of wasting took some time to develop in some fatal cases, and failed to do so in others, was probably due to the small quantity of serum present in the mixture inoculated on to the surface of the brain. As evidence in support of the hypothesis of a cytolytic action of the serum on the brain, I may mention that in several cases (not given in these experiments) in which the antirabic serum from a highly immunised pony was given hypodermically in large doses to rabbits, with the object of protecting them against the experimental infection of wounds with rabies virus, several of the animals died suddenly some weeks afterwards; some showed symptoms of wasting before death, and others did not. The neurotoxic action of the serum was in all probability the cause of death in these cases.

It is difficult to explain why the serum of a patient after antirabic treatment may one day give evidence of only prolonging the incubation period for a few days, and on the next day of complete rabicidal action. A possible explanation might be that the amount of virus in a 1 per cent. emulsion from the medulla of different rabbits varies widely. On the other hand, an equally plausible explanation might be that the rabicidal substances in the serum of a treated patient vary from day to day. It would be impossible to say whether either or both of these hypotheses explain the variation in the results obtained.

III.—EXPERIMENTS WITH THE BLOOD OF A PATIENT SUFFERING FROM HYDROPHOBIA.

In April, 1905, a patient arrived at the Institute in the early stages of hydrophobia. I took a few capsules of blood from his finger, some of which I citrated to the extent of 0·5 per cent. citrate of sodium and others were allowed to clot in the ordinary way. Immediately after the citrated blood was collected three healthy full-grown rabbits were inoculated subdurally with ½ cubic centimetre each. None of these animals developed rabies. (See Table VIII.) These results lend confirmation to Pasteur's statement that the virus is not found in the blood. The serum from the non-citrated blood was mixed with an equal volume of a 1 per cent. fixed virus emulsion, then placed in the incubator for one hour at 37° C., and two rabbits inoculated subdurally with 0·15 cubic centimetre each. Both these animals developed rabies, one on the tenth day and the other on the eleventh day after the experiment—a prolongation of the incubation period for fixed virus of three and four days respectively. (See Table IX.). In these two experiments the serum was kept in an ice chest for 48 hours before being used, so there is a possibility that it may have lost to some extent in complement. The fact of there being a prolongation of the incubation period to the extent of three and four days would indicate that during the onset of hydrophobia an attempt is made to combat the virus by the elaboration of antibodies. The patient from whom the serum was obtained was in the early stages of the disease, and the only symptoms he had at the time were difficulty in swallowing and a little mental excitement. On the second day his symptoms were more marked and he died on the third day.

TABLE VIII.—*Experiments with the Blood of a Patient Suffering from Hydrophobia, when Inoculated Subdurally in Rabbits.*

No. of experiment.	Date of experiment.	Animal inoculated.	Substance inoculated.	Quantity inoculated.	Method of inoculation	Results.
	1905.					
1	April 26th.	Rabbit full grown.	Blood of a patient suffering from hydrophobia.	0 5 c.c. (citrated 0·5 %).	Subdurally.	Alive and well June 24th, two months after the experiment.
2	"	"	"	"	"	"
3	"	"	"	"	"	Died May 15th, but showed no symptoms of rabies before death. A portion of the medulla used to inoculate another rabbit failed to give it rabies.

Remarks.—The blood of a patient suffering from hydrophobia failed to give rabies to rabbits in the above three instances when inoculated subdurally.

TABLE IX.—*Experiments with the Serum of a Patient suffering from Hydrophobia, when Serum mixed with Fixed Virus and Inoculated Subdurally in Rabbits.*

No. of experiment.	Date of experiment.	Age of serum.	Proportion of serum and virus mixed.	Time and temperature serum and virus in contact before inoculation.	Quantity inoculated.	Date of commencing paralysis.	Incubation period.	Results.
	1905.							
1	April 29th.	48 hours (in ice chest).	Serum 1 vol. Fixed virus 1 vol. 1 % emulsion.	1 hour; 37° C.	0·15 c.c.	May 8th.	10 days.	Incubation period prolonged three days.
2	"	"	"	2 hours; 37° C.	"	" 9th.	11 days.	Incubation period prolonged four days.

Remarks.—In these two experiments the incubation periods were 10 and 11 days respectively, as compared with 7 days, the incubation period for fixed virus either used by itself or mixed with normal human serum.

TABLE X.—*Control Experiments with Normal Human Serum and Fixed Rabies Virus.*

No. of experiment.	Date of experiment.	Source of serum used.	Proportion of serum and virus mixed.	Time and temperature serum and virus in contact before inoculation.	Quantity inoculated.	Date of commencing paralysis.	Incubation period.	Results.
	1905.							
1	March 22nd.	Normal man.	Serum 1 vol. 24 hours old virus 1 vol. 1% emulsion.	1 hour; 37° C.	0·15 c.c.	March 29th.	7 days	Normal period of incubation for fixed virus when inoculated subdurally in rabbits.
2	May 23rd.	"	"	"	"	May 30th.	"	"
3	" 24th.	"	"	"	"	" 31st.	"	"
4	" 25th.	"	"	"	"	June 1st.	"	"
5	" 26th.	"	"	"	"	" 2nd.	"	"
6	" 27th.	"	"	"	"	" 3rd.	"	"
7	" 28th.	"	"	"	"	" 4th.	"	"
8	June 23rd.	"		"	"	" 30th.	"	"

Remarks.—In all these controls the serum was derived from a different person for each experiment, and the fixed virus from a different rabbit. Full-grown rabbits were used, and the experiments were similar in every detail to those for which they are controls, except that normal human serum instead of serum from a treated person was used. Several more controls done at different times might be added on, but these would serve no more useful purpose than the above, for the results were invariably the same, viz., *rabies seventh day.*

REMARKS ON THE TABULATED RESULTS.

Tables I. and II. require no further comment.

Table III.—Ordinary treatment, but extended over a period of 22 days. 11 out of 22 experiments developed rabies; average period of incubation nine days.

Table IV.—Light treatment for 18 days. The patient was of alcoholic habits and it was doubtful whether he had been infected, hence the light treatment over an extended period. 8 out of 10 experiments developed rabies; average period of incubation 9·7 days. The result of this series of experiments would seem to indicate that light treatment does not confer a high degree of immunity.

Table V.—An example of very light treatment lasting only ten days. 16 out of 21 experiments developed rabies; average period of incubation 8·8 days. Here again it would seem that light treatment does not confer a high degree of immunity.

Table VI.—An example of ordinary treatment prolonged for

a period of 24 days, but not by the intensive method. 10 out of 20 experiments developed rabies; average period of incubation *15 days*. The results of this series of experiments indicate that prolonged treatment confers a higher degree of immunity than treatment extended over a shorter period of time.

Table VII.—Ordinary treatment lasting 20 days. 9 out of 19 experiments developed rabies. Average period of incubation *10 days.*

Tables VIII., IX., and X. require no comment.

Further information will be found in the footnotes to the above tables.

SUMMARY OF CONCLUSIONS.

1. By immunising horses with fixed rabies virus it is possible to prepare a serum having well-marked rabicidal *properties.* Normal horse serum is devoid of these properties.

2. The rabicidal properties of this serum can be tested by mixing it with fixed virus and subsequently using the mixture to inoculate susceptible animals, such as rabbits, subdurally.

3. The *indications for the use of* such a serum would seem to be as an adjunct to the ordinary method of treatment in *severely bitten and late cases.* In severely bitten cases coming early for treatment it might also be injected into the *wounds* and *the tissues* in their vicinity.

4. The serum of patients after undergoing a course of *antirabic treatment also gives evidence of containing* rabicidal substances and the presence of these substances *can be demonstrated in a manner similar* to that mentioned in Conclusion 2. Normal human serum is devoid of these *properties.*

5. The rabicidal substances in the serum of a patient after *antirabic treatment are a possible index of the amount of* immunity conferred and the efficacy of treatment.

6. Prolonged treatment confers a higher degree of immunity, as judged by the rabicidal effects of the serum on fixed virus, than treatment *extended over a shorter* period of time.

7. The *blood of a patient suffering from hydrophobia fails* to infect rabbits when inoculated subdurally.

8. The serum of a patient in the early stages of hydrophobia is capable of prolonging the incubation period for fixed virus when mixed *in vitro* and inoculated subdurally in rabbits.

Kasauli, Punjab, India.

SOME RECENT CASES OF CÆSAREAN SECTION.

BY J. B. HELLIER, M.D. LOND.,
OBSTETRIC PHYSICIAN TO THE GENERAL INFIRMARY, LEEDS.

CASES 1 AND 2. *Cæsarean section performed twice on the same patient.*—A woman, aged 24 *years,* had a *generally* contracted pelvis, of which the true conjugate was about three and a half inches. Two *previous* children, delivered with forceps, had both succumbed during delivery, and a third child, born *after the induction* of premature labour, lived only a few minutes. The patient was very anxious to have a *living* child and in view of the safety of the modern operation such cases are very suitable for treatment by hysterotomy. From data given by the patient it was calculated that on March 28th, 1905, she would be within a few days of term. Operation was performed on this day and presented no difficulty, and, except for some *temporary bronchitis,* recovery was complete and satisfactory. Unfortunately, the child was not mature, for it weighed *only* four pounds and measured 17 inches. It was incubated but lived only four days. This shows that if the data given by the mother are *wrong* there is danger of delivering the child prematurely if we do not wait for labour *to begin.* The same woman was admitted in May, 1906, in the last month of her next pregnancy. Her last period had been from August 3rd to 9th, 1905, so that labour was expected about May 16th or later. It began *spontaneously on May 8th,* at 7 P.M., and Cæsarean section was performed at 5 30 the following morning. There was hardly any trace of the previous uterine incision, but some omental adhesions required separation. The placenta was anterior and required to be separated first. The child was a living female and throve well. She weighed six and a *half pounds.* In order to carry out the wish of the father and mother partial salpingectomy was performed in order to prevent future conception. Recovery was not very smooth, being complicated by some suppuration in the lower end of the wound, probably due to a uterine stitch abscess, which, however, was successfully treated by inserting a small rubber drainage-tube. She was discharged cured on June 16th.

CASES 3 AND 4. *Another patient on whom Cæsarean section was twice performed.*—A woman, aged 27 years, was rickety and did not walk till five *years of age.* She had a flat, rickety pelvis with oblique conjugate of about three and three-quarter inches. In *each of four previous labours* she had failed to bear a living child. They had been foot presentations and there had *in each instance been much* difficulty in delivering the after-coming head. Labour was expected *on April 17th and the operation* was *performed* on the 18th, before labour had commenced. There was no difficulty or complication and the mother suckled her child. It weighed only five pounds and I decided that in *any future pregnancy I would wait till labour began.* She was re-admitted on Oct. 11th, 1907, saying that she expected *to be confined in the latter half of October. Labour* pains did not begin till Nov. 8th. The abdomen was carefully *opened along the scar of the old incision. There* was a band of peritoneal adhesion between the uterus and the abdominal wall, *but hardly any scar in the uterus.* The placenta lay anterior and was removed first. The mother made an uncomplicated *recovery and having a good* supply of milk suckled the child, which has thriven very well. It weighed nearly eight pounds at birth.

CASE 5. *Dwarf pelvis.*—This case was that of a rickety dwarf 44 inches *in height. There* was a marked lordosis in the lumbar region and the tibiæ and femora were much curved. There was a *small flat pelvis, the* promontory filling the pelvis and coming within one and three quarter inches of the pubes. The liquor amnii discharged on April 10th, 1906, and *operation* was performed at once. There were *no difficulties or complications.* The patient was sterilised. The child weighed six and a half pounds and throve well. At the operation I noticed some free ascitic fluid in the pelvis, as in some other cases. Good *recovery* ensued.

CASE 6. *Flat pelvis.*—The patient was a married woman, aged 34 years. She was sent in by Dr. C. H. Moorhouse because her two previous labours had resulted in *stillborn* children who died in delivery. The true conjugate was about three and one-eighth inches. *Operation* was performed on Jan. 9th, 1907; recovery ensued without complications. The patient was not sterilised. The child was a fairly well developed male but *unfortunately* died in three and a half hours from atelectasis pulmonum, as verified by post-mortem examination. Labour had commenced before operation.

CASES 7 AND 8. *Two operations on the same patient.*—Case 7 is of interest because the operation was done *for a somewhat contracted pelvis and also as a method of* dealing with ante-partum hæmorrhage. The mother was a Jewess. She had had one living child seven years before, although the true conjugate was about three inches. Before admission she had lost a great deal of blood but the fœtal heart was audible, beating *126 in the minute.* She was very anxious to have a living child and labour had begun. Judging that the safest treatment for mother and child was to deliver by hysterotomy I operated at once (Feb. 3rd, *1907).* The *placenta was attached* to the posterior uterine wall above the "danger-zone," but the lower part *was already separated,* and *to this* dark blood clot was adherent. The child was a well-developed male, weighing $6\frac{1}{2}$ pounds. It throve well and the mother recovered without complication. *On May 3rd,* 1908, Cæsarean section was again performed on this patient and a living male was delivered *without complication.* Labour had begun. *In* this case (Case 8) salpingectomy was performed. Good recovery.

CASE 9. *Osteomalacia.*—This patient was born in Leeds and had lived a few miles *lower down the river.* She had had no serious illness up to marriage at the age of *27 years* in 1892. Her first two pregnancies terminated in normal delivery of living children at term, then came an *abortion at the third month,* and then a full-term easy labour. Her fifth pregnancy ended in *abortion at three months and* her sixth in the delivery of a *stillborn* child said *to have been* dead a week. After this confinement—*i.e., about seven years* ago—she first noticed symptoms of osteomalacia—namely, lameness with pain on walking and in the bottom of the back on stooping. The seventh pregnancy ended in a still-birth. At the end of the eighth pregnancy she was brought in labour to the Leeds Infirmary (March 18th, 1906). She said that she had lost much in stature and she walked very lamely, stooping forwards, and she complained of pain when lifted in bed. The head was presenting. The pubic arch was narrowed, so that in trying to take the oblique conjugate the finger would not pass up to the bottom of the symphysis. There was rostration of the os pubis. As there were grounds for thinking that the vagina was not aseptic Cæsarean section was not performed, but the child was delivered by version, the after-coming head requiring perforation. I thought the pubic arch opened a little during extraction, as sometimes is the case in soft-boned pelves of this sort. The patient made a good recovery. She was admitted again on June 18th, 1907, in the last month of her ninth pregnancy. She was very sallow and very lame and had lost weight. Cæsarean section was performed on June 22nd at about the time when labour was supposed to be due. It presented no difficulties and both ovaries were removed with a view of curing the osteomalacia. She recovered without complication. The child was a puny male weighing barely four pounds. He was incubated and every effort made to rear him. He could swallow and did not at first suffer from vomiting or diarrhœa. At the age of three weeks Dr. W. H. M. Telling kindly took him under his care at the Hospital for Women and Children. As diluted milk did not then agree with him he was fed on peptonised milk and was kept in the incubator. The temperature was always subnormal, and if an attempt were made to take him out of the incubator the condition would become worse. He never weighed above four pounds and died suddenly in the eleventh week of life. In December, 1907, the mother reports that she keeps very well "in herself" and that she has less pain in her legs, is not so lame, and can get about much better.

As I have published a clinical lecture on the history and technique of Cæsarean section with nine previous cases performed in this hospital,[1] I will here only note a few points which these nine additional cases suggest. So far as the mother is concerned it is entirely satisfactory to operate before labour begins, but the interests of the child are best secured by waiting until the full term of pregnancy, for the longer it can be incubated in its mother's womb the better it is qualified to live and thrive in the world outside. Calculations as to the duration of pregnancy are notoriously uncertain, and, indeed, the period of utero-gestation is not a fixed quantity. In all ranks of society we hear of unborn children who are considered to be *overdue*. The fact is that the fruit falls when it is ripe and it is a mistake to gather it prematurely; and there seems to be some danger of doing so, judging by my experience, if labour be anticipated. The operation is very easy and safe in experienced hands, granting only that the patient has not been the subject of ill-advised attempts to deliver in other ways and that she is in an unimpaired condition, and that the parturient canal is aseptic. I do not think that any personal precautions of the operator can give absolute certainty that the vagina and cervix are quite free from pathogenic organisms. A case is on record where a child delivered by Cæsarean section was found to have the conjunctiva infected by purulent ophthalmia, so that presumably infection was present above the os internum. There is a possibility of a uterine stitch abscess sometimes arising through infection from the endometrial surface of the uterine incision. If there should be any reason to suspect this after operation the treatment would be to take out the lowest abdominal stitch and insert a rubber drainage-tube. During operation it is well not to make the incision too low, but avoiding the lower uterine segment to extend upwards rather than downwards.

In regard to sterilising, my practice has hitherto been to be largely guided by the expressed wishes of the two parents. I think that Cæsarean section ought to be more frequently performed for contracted pelves when experience has proved that the mother cannot bear living children even though the pelvic diameters place the case on the border line of possible delivery as laid down in text-books. Osteomalacia is rare in the West Riding as in other parts of England, but I have seen two cases in the last seven years. The case here recorded seems to have benefited decidedly from oöphorectomy, as osteomalacia usually does.

Leeds.

---

[1] THE LANCET, Jan. 9th (p. 76) and Oct. 1st (p. 952), 1904.

THE PROTRACTED USE OF DIGITALIS.

BY R. E. ACHERT, M.D.,

CONSULTING PHYSICIAN TO THE MUNICIPAL MINERAL WATER HOSPITAL AT BAD NAUHEIM (GERMANY).

THE use of digitalis as a drug has been compared with that of the whip applied to an overworked horse. The *protracted use* of the drug may well be looked upon as crutches which enable sufferers from cardiac diseases to hobble along for a very long time to come. It was chance that led to the appreciation of this method. A highly intelligent engineer suffering from hypertrophy of the heart had for five years continuously taken small doses of digitalis—his state of health being under careful observation during that period—without any phenomena of poisoning manifesting themselves. Kussmaul utilised this case at the time in order to discuss the question of digitalis poisoning consequent upon so-called accumulation. This method of applying the drug by way of protracted medication and in small, almost homœopathic, doses, so to speak, dates back, however, much farther than is generally assumed. For from the *Charité-Annalen* one learns that Fräntzel (whose writings are an almost inexhaustible source of information for later authors) already employed the *dosis refracta* of digitalis.

It is certain that digitalis administered in the way which was formerly customary when employed for a long period of time, even in small doses, had a so-called cumulative effect in many instances, whilst in others such medication proved quite ineffective. Such refractory cases, however, will always be met with. Eichhorst has shown that it is necessary for the cardiac muscle to be sufficiently capable of performing its function if digitalis is to take effect. Should this not be the case the effect does not ensue, and provided the digitalis preparation used is a good and reliable one its failure to produce an effect on the heart suggests a thoroughly unfavourable prognosis, for in such cases no other remedy is likely to prove of service.

Again, in other cases the cumulative effect takes place because the excretion of the active substances does not keep pace with the absorption, and strict supervision, therefore, becomes imperative. It was strange that such a cumulative effect is not constant. Some authors have noticed it and thereupon prohibited its protracted administration; others have not observed it or have done so but seldom, and continued its use. Naunyn may be right in advocating the view that in general there are no urgent reasons for fearing the cumulative effect of the drug. Until very recently, however, we had no explanation of the cumulative effect; experimental evidence was absolutely lacking.

From the recent researches of Focke and others we know how varied is the amount of efficacious substances contained in digitalis leaves and how fluctuating the proportion of active principles. Hence we can well imagine why a cumulative effect ensues in one case and remains absent in another.

This subject had been made clearer and more understandable from the recent writings of Cloëtta,[1] who showed by experiments on animals that the effect produced by crystallised digitoxin differed from that due to the amorphous digitoxin.

Fränkel[2] was the first to make experiments on animals He employed digitoxin in the crystallised form and found that injections of very small doses into cats *were followed* by cumulative effects. Now, when it was observed that digalen (digitoxinum solubile Cloetta) did not produce a cumulative effect in the respective patients the fact was very remarkable, considering that the majority of the authors looked upon the cumulative effect as being characteristic of a serviceable preparation. It was all the more puzzling since in the experiments on animals no difference was observed in the effect produced on the cardiac muscle by digalen and crystallised digitoxin respectively (Freund,[3] Sasaki[4]). Experiments according to Fränkel's method had hitherto, it is true, not yet been made. The fact was borne out by the increasing number of results obtained in practice showing that the administration of digalen to sufferers from cardiac diseases was not followed by cumulative effects.[5] I have not observed any such effect in the numerous cases under my care.

---

[1] Münchener Medicinische Wochenschrift, 1905, No. 47.

[2] Archiv für Experimentelle Pathologie und Pharmacologie, vol. li.

[3] Zeitschrift für Experimentelle Pathologie und Therapie, 1905, vol.

[4] Berliner Klinische Wochenschrift, 1905, No. 26.

[5] The cumulative effect was not observed by Dennig (Jahrbuch

Now Cloetta's experiments on animals have clearly demonstrated that there exists a difference between these preparations, inasmuch as after protracted digalen treatment no cumulative effect was observed in cats, whereas crystallised digitoxin caused in the same animals vomiting, salivation, and anorexia, besides arrhythmia. Cloetta has shown that it is not the molecular weight of the substance (280 as against 552 of crystallised digitoxin) which decides the toxic effect produced, but *the fact that the preparation has been crystallised.*

Several French preparations containing crystallised digitoxin, after trials made for the sake of verification, were found to have a cumulative effect. By way of analogy Cloetta refers to the behaviour of an amorphous form of physostigmine, which also differs in its action from that of the crystallised form (Harnack). Hence the cumulative effect observed by many authors to follow the use of digitalis explains itself by the fact that in the digitalis leaves employed the amorphous digitoxin contained in the fresh preparations must have been transformed into a state analogous to the crystallised digitoxin, a fact which has likewise been proved by Cloetta.

Cloetta's experimental researches are the first which have reliably demonstrated the fact that there is a digitalis preparation—namely, digalen—which does not possess any dangerous or disagreeable cumulative action.

The question now arises, In which of the cardiac diseases is it advisable to resort to protracted medication? Even the acute disorders frequently required a longer period of medication than that which was customary, and one often had recourse to the expedient of giving strophanthus or camphor in between, resuming the digitalis medication after an interval of several days. Even more than the temporarily disturbed valvular defects *do the chronic affections of the cardiac muscle need protracted treatment.* Seeing that these affections predominate in medical practice the prolonged use of digitalis assumes a still greater importance. In patients suffering from fatty heart digitalis, as a rule, does not agree. In the case of fatty degeneration even digitalis cannot save what has been lost already. In neurotic diseases of the heart good results are but seldom seen except when the cardiac muscle is involved. Accordingly the following indications are left as being the most important—viz., myocarditis in all stages and of any pathogenesis, myasthenia cordis chronica with or without dilatation and hypertrophy, and weakness of the heart in the case of hypertrophy of the left side of the heart after nephritis of long standing.

Let me now describe briefly how the treatment is carried out. Kussmaul and Naunyn recommended protracted medication in all cases in which the usual mode of treatment did not produce long-lasting results and in which the phenomena of cardiac insufficiency reappeared within a very short time. They prescribed the digitalis leaves in substance in the form of powders or pills, 0·05 to 0·1 gramme per day; if required the dose was given twice a day. When the effect diminished the dose was afterwards increased. These authors laid stress on the fact that after long-continued use a lasting result might be ultimately obtained and then digitalis might be dispensed with.

This mode of treatment may, it is true, in conjunction with strict supervision, be free from danger and be serviceable, but in view of the unreliability of the drug one must always be prepared to face a cumulative effect. Seeing, however, that in digalen we have at our disposal a preparation—in fact, the only one of the numerous digitalis preparations produced during the last few years—which is exempt from a cumulative effect, it is better than any other officinal preparation suited for protracted medication, as here all the dangers inherent in the other preparations are absent.

As regards the pharmacology of this preparation I would refer readers to Cloetta's respective essays.[6] I would add a few remarks about the dosage in the case of protracted medication. Seeing that 0·15 gramme of folia digitalis corresponds to 1 cubic centimetre of digalen = 20 drops (16·9 minims), from 7 to 14 drops (= say 6 to 12 minims) would have to be administered once or twice per diem in the case of protracted medication; and, indeed, this small dose suffices to maintain the compensation in suitable cases.

Since the introduction of digalen I have given it in all suitable cases and always with satisfactory results. No disagreeable gastro-intestinal disturbances at any time manifested themselves. Of all the allied preparations I deem digalen most suitable for protracted medication. The usefulness of this drug in cardiac disease has recently been highly spoken of by Dr. Ernest von Leyden, my friend and respected teacher.

SUPRARENAL HÆMORRHAGE IN AN INFANT: ITS RELATION TO HÆMOPHILIA.[1]

BY B. G. MORISON, M.D., C.M. EDIN.

THE following case of hæmorrhage into the suprarenal body presents certain features which may, I hope, justify its publication. These are—the occurrence of the lesion very shortly after birth, its characteristic type, and particularly the observation of a hæmophilic tendency prior to any of the more obvious signs of adrenal injury.

A male infant, a first child, was born about the middle of the ninth month of pregnancy after normal labour. The umbilical cord, a thick one, was tied three times in succession on account of bleeding which appeared at the seat of ligature. The ligature was made thick and its material varied in order to obviate damage to the vascular walls, but apparently in vain. On the third occasion a little blood was seen to burst through the cord (uninjured here) above the ligature. Finally, the cord was bound round with double cyanide gauze, kept dry, and regularly dusted with boric powder. It is my practice to allow a child to cry before tying the cord. I mention this because Kiwisch and others have attributed hæmorrhage in newly born infants to undue haste in applying the ligature. Nothing further was noted in this case until the ninth day, when the child seemed weak and would not take the breast. There was some jaundice but the stools were healthy and the cord was dry. There was no umbilical redness. On the tenth day the infant was stronger; snuffling was noticed and small doses of grey powder were prescribed in view of any possible specific taint, though the history did not justify this suspicion. The stools were green. On the eleventh day the cord was nearly off but was still attached. Seen again on the seventeenth day the child was feeding fairly well; the cord had just become detached. On the two following days the parents noticed some rather bright-red patches on the chin. The child became somnolent and refused nourishment, but had neither sickness nor diarrhœa. On the day following I was sent for. The child had suddenly become much emaciated and generally worse during the night. There were bright-red patches on the chin, round the mouth, toward the back of the scalp, and at the tips of the fingers and toes. The scrotum was rather full, red, and slightly eroded. The navel, still being dusted with boric powder, was surrounded by a red, rather prominent ring within which was an unhealed surface. At the circumference of this there was slight separation of cuticle. The heart beat was fairly strong and for the first time a rise of temperature was noted (100·8° F.). The child was "slightly convulsed" all day, as I learned afterwards. At 9 P.M. the temperature was 102°, the erythematous spots were disappearing, but the scrotum was more full and livid. The stools were yellow for the first time in ten days. Death occurred at 11 P.M. on this the twentieth day after birth.

Post-mortem examination showed a red lividity about the chin and mouth, the scrotum full and livid. The thoracic and abdominal viscera generally were apparently normal but for the presence of passive congestion; the spleen was of a deep slate-blue colour, not softened, and on section showing nothing noteworthy; the pancreas was normal. The right suprarenal body was also normal though passively congested; the left was very dark slate-blue. Opened *in situ* it at once collapsed and shed its fluid contents into the abdomen. On examination it appeared to be converted into a blood sac, was very soft, and partly torn in removal. There were no signs of inflammation spreading up from the umbilicus and the umbilical cord inside the abdomen was small, pale, and

---

prakt. Med. 1905; De Renzi (Nuova Rivista Clinico-Terapeutica. 1905, No. 7); Bozzolo (Gazzetta degli Ospedali e delle Cliniche, 1905, Nr. 9); Schwyzer (Medical News, 1905. No. 21); Silvestri e Fiorio (Gazzetta Medica Veronese, Anno I., No. 7).

[6] Münchener Medicinische Wochenschrift, 1904, No. 33.

[1] From notes communicated to the Æsculapian Society.

evidently not diseased. The brain was not examined. The microscopic report by the Clinical Research Association a considerable time after hardening in formalin and methylated spirit is as follows: "The right suprarenal shows no abnormal appearances. The left suprarenal is much broken up but there are the remains of hæmorrhage in its medullary substance, both in the form of extravasated corpuscles and as granules of pigment. The condition is probably the result of strain and not of disease."

The family history in this case is not a good one. Both grandmothers had died from carcinoma and the maternal grandfather from phthisis. I can find no evidence of specific taint nor have I any reason to suspect this. Clinically the case is typical of hæmorrhage into the adrenal medulla and its character was verified by the necropsy. It appears to me that its chief interest and significance depend upon those *earlier evidences of failure of* the vaso-tonic function of the medulla which have been described; the signs of a hæmophilic weakness, the general atony, the slight preliminary purpura, and increasing lassitude which culminated in the final purpuric explosion, nervous and general collapse. It appears as if there had been present at birth, or possibly before it, in the medulla some premonitory congestion or slight hæmorrhage followed by a sudden final apoplexy, a condition of things which finds its counterpart at the opposite extreme of life in the cerebrum. How far hæmophilia is dependent on adrenal inadequacy remains to be proved, but the present case is suggestive in this connexion. So likewise is the fact that in a *certain proportion of these* cases hæmorrhages have been found in other parts of the body—e.g., small extravasations in the floor of the lateral ventricles (F. E. Batten[2]), purpuric spots in the parietal pleura (F. W. Andrewes[3]), small hæmorrhages in the pleuræ, lung, epi- and peri-cardium (L. S. Dudgeon[4]). It is also noteworthy that adrenal hæmorrhage has been associated with a more general state of like nature in "hæmorrhage of the newly born," though the connexion in this latter case has not, as far as I know, been established.

These observations point to a fairly constant relation between hæmorrhage into the suprarenal medulla and the same condition elsewhere and our *present physiological data* point to the former as accounting for the latter. Dudgeon, Rivière, and others are inclined to regard suprarenal bleeding as of toxic origin, and it may be thus explained when associated with microbic diseases. I do not think that this interpretation is the only possible one. For my own case I am inclined to accept the view already quoted that strain or pressure during labour was the primary cause of the hæmorrhage with perhaps some assistance from inherent weakness of tissue related to the family history. The frequent failure to discover any micro-organisms in the suprarenals in these cases and the occurrence of "hæmorrhage in the newly born" would also seem to indicate that a toxic agent is not an indispensable antecedent.

Green Lanes, N.

A CASE OF INDICANURIA.

BY GORDON N. MONTGOMERY, M.R.C.S. ENG., L.R.C.P. LOND.,

HOUSE SURGEON TO THE DORSET COUNTY HOSPITAL.

As literature on this subject seems rather scarce a few notes on a case may be of interest.

The patient, a female, aged 32 years, is a servant at the above hospital. Her general health is good, except that she suffers at times from slight attacks of "petit mal." She says that she often has "trouble with her bowels," having to take pills sometimes to obtain an action. On March 2nd, having been constipated for several days, she took a pill of colocynth and hyoscyamus. This was her usual aperient. On the following day the bowels were relieved twice and she experienced some abdominal discomfort during the day. On this date the patient noticed that the urine was altered in colour and a specimen was brought to me. The colour varied in density during the following three days until March 6th, when it became much lighter, and on the next day it was quite normal. During these days the patient did her work as usual and felt quite well, except that she felt a little worried about the urine, which was coloured when passed. She had never passed urine like it before and has not done so since. The urine was of a dark blue-green colour, with a specific gravity of 1015; it was acid; there was no albumin or sugar. On adding a little chloroform to some urine in a test-tube the chloroform became a blue colour. When some urine was added to some boiling nitric acid a bluish ring was seen at the junction of the two liquids. There was no history of eating or drinking anything that she had not been accustomed to or of using carbolic acid in any form, or methylene blue.

Professor William Osler,[1] speaking of indicanuria, says: "The substance in the urine which has received this name is the indoxyl-sulphate of potassium, in which form it appears in the urine and is colourless. When concentrated acids or strong oxidising agents are added to the urine this substance is decomposed and the indigo set free. It is present only in small quantities in healthy urine. It is derived from the indol, a product formed in the intestine by the decomposition of the albumin under the influence of bacteria. When absorbed, this is oxidised in the tissues to indoxyl, which combines with the potassium sulphate, *forming* the above-named substance." Also: "It is not usually increased in constipation, although it may be present in large amount with no other discoverable cause. ...... Though, as a rule, the urine is colourless when passed, there are instances in which the decomposition has taken place within the body, and a blue colour has been noticed immediately after the urine was voided."

Dr. O. J. Kauffmann[2] writes: "Indican is derived from indol, which latter is formed in the intestine by bacterial decomposition of albuminous substances. A very little indican is commonly present even in the urines of healthy persons, but a considerable excess of the same, such as I show you in these specimens, is always accompanied by disturbed general health. We may, therefore, say that excess of indican in the urine is always associated with toxæmia and this toxæmia arises (with rare exceptions, in which the source is decomposing pus) from the intestinal canal."

The interesting points in this case, I think, are: (1) the deep colour of the urine; (2) the fact that it was coloured when passed; and (3) the circumstance that the patient was in good health.

Dorchester.

A CASE OF

APPENDIX RUPTURING DURING AN OPERATION AND AN ANALYSIS OF THE MEANING OF THE SYMPTOMS.

BY F. R. B. BISSHOPP, M.D. CANTAB., M.R.C.P. LOND.,

HONORARY CONSULTING PHYSICIAN, TONBRIDGE UNION INFIRMARY;

AND

JOHN D. MALCOLM, F.R.C.S. EDIN.,

SURGEON TO THE SAMARITAN FREE HOSPITAL, LONDON.

THE subject of the following history was a *delicate-looking* man of nervous type and 38 years of age. 14 years before the illness now recorded he suffered from an attack of internal inflammation for which mustard was applied to the right lower portion of the abdomen and during the last two or three *of the intervening years he occasionally felt* a slight discomfort in the same position which, however, never attracted serious attention. On July 9th, 1906, he did not feel well in the evening but had no pain. On the 10th he had breakfast as usual and the bowels acted. Immediately *afterwards and* throughout the day he felt slight pain along the top of the abdomen and, although getting about, he took no food except a little tea and a biscuit. He went to bed early and, later, had a dose of castor oil which made him vomit. Soon after this, about 10 o'clock at night, he was *suddenly* seized with intense pain like a hot and heavy ball deep down in the centre of the abdomen but not near the appendix. An alarming state of collapse followed and Dr. Bisshopp was sent for. When he arrived, about half an hour after the attack began, recovery had to some extent taken place, but there was still considerable soreness; the pulse was quick and the temperature was subnormal. A dose of less than an eighth of a grain of morphine was administered and gave relief. This was the only opiate given. On the next morning the patient was free from pain and he slept a great deal that day. He moved about his bedroom during the afternoon and seemed pretty well. In the evening he complained of pain in the appendix region, but no swelling was felt. On the morning of the 12th there were a well-marked protective contraction of the muscles over the cæcum and a slight fulness of the abdomen. After the 10th neither fæces nor flatus passed from the rectum, but there was no vomiting. The highest temperature was 99° F. It was thought that a perforation had occurred and the patient was seen in consultation by Mr. Malcolm at 5 o'clock P.M. on July 12th, 43 hours after the attack of pain and collapse occurred. He was then lying in bed quite comfortably without pain, with a normal temperature and with a quiet pulse beating 72 to the minute. There was a very little fulness of the abdomen and the muscles were less rigid but still resistant over the appendix. There was no defined swelling.

---

[2] Transactions of the Pathological Society, 1893.

[3] Ibid.

[4] American Journal of the Medical Sciences, 1904.

[1] Principles and Practice of Medicine, p. 620.

[2] THE LANCET, July 14th, 1900, p. 75.

At this time there was nothing to indicate that the patient's condition was a serious one, but it was considered wise to operate at once. The preliminary pain, the acute collapse, the subsequent quiescent state of the intestine, the fulness of the abdomen, and the continued resistance over the cæcum, together with the absence of inflammatory symptoms and of a defined swelling, led us to this decision. Mr. Malcolm thought that the appendix was in part gangrenous. Within an hour the patient was anæsthetised by Mr. G. Roberts and the abdomen was opened. On puncturing the peritoneal sac with the point of a knife a few drops of pus-like matter escaped, and on extending the incision there was a considerable flow of fluid which would be described more accurately as a turbid serum than as pus and which was free in the peritoneal sac. It was not offensive. The appendix lay behind the cæcum and was very lightly attached to some of the surrounding structures by recent adhesions which were separable by a mere touch of the fingers. It was *not ruptured when first seen, but the traction necessary to* bring it forward caused a drop of opaque whitish material to escape through a small opening in its wall. The rupture evidently took place in consequence of the manipulation. The appendix was removed, and the pelvis, the right loin pouch, and the retro-cæcal region were drained by rubber tubes and gauze tampons, the surfaces of the wound in the abdominal wall being drawn together by sutures as much as the method of treatment would allow. The patient bore the operation well; his pulse was rapid during its progress but soon quieted down after he was replaced in bed.

The highest temperature following the operation was 100·6° and the quickest pulse was 90. There was a profuse discharge of serous fluid during the first 30 hours. Between the second and fourth days the drainage mechanism was all removed except a superficial gauze packing. The tube and gauze in the right loin became distinctly offensive, but they were first shortened and then taken out with the others which were free from odour. After about 48 hours flatus began to be expelled from the rectum, the abdominal fulness gradually subsided, and the bowels moved at the end of three days. There was a very decided yellow discolouration of the skin, increasing until the third morning and then passing off. The subsequent history was one of uninterrupted recovery, the skin edges, which at first were necessarily widely apart, being completely healed at the end of six weeks. The most recent accounts of this case show that the patient's health is completely restored. The scar has held very well, especially if the mode of its formation is considered; it only bulges slightly.

After being nearly a month in spirit the appendix had a diameter of just under half an inch in its distal two-thirds, whilst that of the proximal third was a quarter of an inch. There was a perforation about the middle of the thickened portion, nearly as far as possible from the meso-appendix and about a twelfth of an inch in diameter. On slitting up the canal it was seen that its lumen at the junction of the narrow and the thicker part was almost obliterated. The figure is a microphotograph of part of a section showing the perfora- tion. The Clinical Research Association reported that "this appendix shows inflammatory changes most marked around the perforation, less towards the tip, and less still near the cæcal end. Around the perforation all the coats are infiltrated with leucocytes and there is much proliferation of lymphoid elements. At the constriction the mucous membrane seems to have almost entirely disappeared, only one or two patches of lymphoid tissue remaining."

Remarks by Mr. MALCOLM.—There is no doubt that in this case there was an increasing contraction of the lumen of the appendix which probably began as a consequence of a previous inflammation 14 years before the operation. As the canal became almost closed there were attacks of discomfort, hardly amounting to pain, caused by temporary distensions of the portion of the appendix beyond the stricture. These attacks were little noticed, not being accompanied by any obvious symptoms of constitutional disturbance.

Clearly some new factor was added to the case in the illness during which I operated, and the phenomena observed seem to be explained most fully by, and also very strongly to support, the view which I have already advocated[1] that in the appendix, as in the stomach and duodenum, a gangrenous patch may form *without any preceding symptoms.*

I believe that before this patient felt any pain on July 10th the perforation shown in the figure, or at least the outer part of it, was filled with tissue which suddenly became *gangrenous.* In other similar cases I have discovered such patches *in situ* and unseparated from the living tissues when the abdomen was opened.[2] This change gave rise to no symptom, except a doubtful malaise, until some degree of tension arose within the appendix. Then the traction on the living structures attached to the dead patch caused a definite pain. The dose of castor oil, by inducing movements, straining, and pressure on the appendix, increased the tension within it; the pain consequently became agonising and *symptoms of collapse followed.* That the pain was not at once referred to the appendix region is a very common observation in these cases. A gangrenous patch does not, however, lose all strength or become separated immediately on its formation, and in the case recorded the recently dead tissue was still of firm texture and intimately attached to the surrounding living structures when the acute attack occurred. Hence a rupture did not then take place. The contents of the appendix partially escaped into the cæcum, as they had always done before, and relief was obtained. The dose of morphine given and the quietness enjoined helped to prevent the development of further evidences of mischief for a time. The pain was comparable to that caused by the act of defæcation when an anal fissure exists. In such circumstances intense pain and even fainting may be induced, but when the stool has passed, in a short time, especially if morphine is given, the pain ceases until the anus is again distended.

Reproduction of microphotograph showing the perforation in the appendix wall and an obvious loss of tissue.

When a gangrenous patch develops in a portion of the wall of the intestine micro-organisms must sooner or later pass through it to the peritoneum, and the further history of the illness depends chiefly on the nature of those escaping. In the case above recorded those which found their way into the peritoneal sac induced an exudation that was probably a clear serum at first but was distinctly turbid at the time of the operation and would have become truly purulent later on if interference had been delayed.

The micro-organisms in this particular case were not very injurious, but either those first *escaping, or perhaps others* of a more virulent type which followed, had a sufficiently irritating effect to cause a quiescent state of the bowel and a tendency to its distension. Moreover, when the abdomen was opened the gangrenous patch was ready to separate and a rupture did actually occur during the operation. It is *therefore certain that, if surgical* treatment had been postponed, the evidences of a spreading peritonitis would, in a very few hours, have been much more pronounced, the appendix would have ruptured, and the gravity of the patient's condition would have increased enormously.

---

[1] Appendicitis and Gangrene of the Vermiform Appendix considered as Separate Diseases, Transactions of the Royal Medical and Chirurgical Society, vol. lxxxix., and THE LANCET, July 28th, 1906, p. 213.

[2] Loc. cit., Cases 7 and 8.

The success of the operation and the comparative freedom from danger were mainly due to Dr. Bisshopp's prompt recognition of the necessity for surgical interference. Another very great danger was escaped by the patient's unquestioning decision to follow the advice given. An emergency operation is seldom performed when the immediate symptoms appear so little urgent as they did in this case, and a hesitation to accept the treatment recommended would have been very natural. The patient was urged to acquiescence by a fear of a return of the pain.

The responsibility of recommending operative interference in such cases is often very great, but as our knowledge of the changes taking place increases we shall be able to advise with more precision. The view that in the appendix, as in the stomach wall, a piece of tissue may die and may remain in its normal position for a time without causing symptoms of any kind facilitates the diagnosis by offering a rational explanation of the symptoms, and I operated with the greatest confidence that a gangrenous patch existed in the case under discussion. Without holding this view it is possible to recognise the necessity for operative interference because after similar symptoms rapid death has followed. But when, as in the case recorded, there is an illness of not less than between 50 and 60 hours' duration, at the end of which time a gangrenous patch in the wall of the appendix is found to be just about to give way and when the highest recorded temperature is only 99°, the explanation that the conditions observed are the effects of an inflammation is inadequate. The alleged cause of mischief appears to be absent. It is true that evidences of inflammation were found in the microscopic sections of the appendix, but this tube must have been in a chronic state of irritation for some years on account of the tightening constriction, and the infiltration of leucocytes around the perforation may be fully explained as the consequence of the presence of the dead tissue.

I have published other cases[2] in which a similar absence of evidences of inflammation has been observed in association with a gangrene formation, and if we consider those cases to which the term explosive or fulminating appendicitis has been given much may be said in *favour of the view that* the illness depends upon a gangrene formation which has caused no symptoms until perforation occurred by separation of the dead part. Such cases are often characterised at first by symptoms of shock and by collapse, which are easily accounted for as the results of perforation but not as those of an acute inflammation. The inflammatory symptoms which do arise later may often be most satisfactorily interpreted as the effects of the presence of a gangrenous patch or of the discharge of the contents of the bowel into the peritoneal sac.

The cause of a gangrene formation in the appendix, as in the stomach, is obscure, but in many cases, as in the one related in this paper, the death of tissue is certainly not due to a sthenic inflammation and is not accompanied by immediate symptoms.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Discussion on the Administration of Tuberculin and other Vaccines by the Mouth, together with (a) Normal Saline Solution and (b) Fresh Horse Serum.

A MEETING of this section was held on May 26th, Dr. S. J. GEE, the President, *being* in the chair.

Mr. E. C. HORT said that Dr. A. Latham, in his paper on the Administration of Tuberculin and other Vaccines by the Mouth, together with (*a*) Normal Saline Solution and (*b*) Fresh Horse Serum,[1] had discussed questions upon which he (Mr. Hort) had been engaged for 12 months in attempting to answer. He ventured, therefore, to contribute to the discussion by briefly referring to his own work on the subject which to some extent confirmed the results arrived at by Dr. Latham. Dr. Latham's investigations, though commenced at a more recent date than his (Mr. Hort's) formed an absolutely independent inquiry of his own. As regards the internal administration of normal horse serum, he had in the last 14 months been directly responsible for the administration of more than 50,000 cubic centimetres in over 150 cases of different diseases, details of which would shortly be published. His experience was as follows: 1. Its action when given internally was more restricted than when applied locally. Its mode of action in the former could at present only be indicated by its more easily observed action in the latter. In that it seemed to combine a stimulant action with the paralysing action that it could be demonstrated *in vitro* and *in vivo* to exert on autolytic and heterolytic enzymes. 2. It might be given by the mouth for weeks in daily doses of from 30 to 40 cubic centimetres with impunity but it must be fresh and sterile and should be given directly after meals during digestion. If those conditions were observed the collapse, serum rash, pyrexia, and other by-effects noted by Dr. Latham would not occur. 3. In such generally infective conditions as pulmonary tuberculosis and pneumonia it was apparently of little value. Dr. Latham's suggestion of giving it with tuberculin might prove of benefit but of that he had had but little experience. 4. If given internally many cases of so-called simple anæmia showed a rapid rise of hæmoglobin and corpuscular content, though in pernicious anæmia it was useless. 5. In hæmoptysis, purpura, hæmophilia, and the hæmorrhage of enteric fever it was often of material benefit. 6. When applied locally in the form of constant dressings in such chronic conditions as local tuberculosis and staphylococcal infections it gave good results. In cases of mixed infection of those two organisms he had found it good practice to attack the staphylococcal infection first by administering the appropriate vaccine by the mouth. 7. In such conditions as chronic gastric and duodenal ulcer, ulcerative colitis, extensive varicose ulcer, bedsore, &c., it was with few exceptions of high value. It might appear that the action of normal horse serum on conditions not obviously bacterial was outside the scope of a discussion on immunity. But one of the many functions of the serum of an individual and of his cells seemed to be the restraint exerted on the autolytic action of his own enzymes. In many lesions—as, for example, in all kinds of ulceration not primarily dependent on bacteria—the phenomena of ulceration might be due to an absence of such restraint: in other words, to a breakdown in the mechanism of immunity against such enzymes. It was beyond dispute that the normal serum of many animals, including man, and notably of the horse, had strong antitryptic and anti-autolytic power. By administering serum, as in the cases referred to, they were, of course, merely transferring that protective body to the seat of cell destruction. The clinical effects were significant and might explain many hitherto unexplained diseases, of which non-bacterial ulcerations of all kinds seemed to be a good example. In bacterial lesions the effect of the serum appeared to be, amongst other things, stimulation to repair and inhibition of bacterial proteolysis. This antitryptic power of serum was becoming well known. The work of Cathcart, Baer, and later Koltschmann and Müller showed that the anti-enzyme was tied to the albumin fraction. It appeared from the work of Dr. F. L. Golla that its inhibitory power underwent variation in different diseases. The satisfactory results which he had obtained with normal serum in many forms of proteolytic cell destruction had led him to attempt to get a serum prepared with this antitryptic power increased. In that he owed much to the work of Martin at the Lister Institute and to Dr. Golla who informed him that serum so prepared had a high antilytic valency. It might be prepared in two ways, either by subtracting from serum the globulin moiety, which favoured proteolysis, or by increasing the relative amount of albumin present. Such had now been prepared and the difficult problem of at the same time preserving the stimulins had also been apparently solved. The serum stripped of its globulin he had labelled antilytic serum A; the serum in which albumin content had been increased and in which the globulins had been left intact with the stimulins and other antibacterial bodies he had designated antilytic serum B. The first was for internal use; *the second for local. As regards the* oral use of tuberculin and other vaccines by the mouth he had only the evidence of some 20 recent cases of his own, *mainly of* staphylococcal infection, *to offer. These included cases* of pustular eczema, suppurating sinuses and infected ulcers of the tongue and mouth, and a few of surgical tuberculosis. He had treated most by vaccines by the mouth and local applications of serum. At present he could only say that the results were encouraging.

---

[2] Loc. cit.

[1] THE LANCET, March 28th, 1908, p. 934.

Dr. **HECTOR MACKENZIE** said that with regard to staphylococcic infections he was satisfied that they had in vaccine treatment by the mouth a powerful remedy and he had seen the most remarkable results in long-standing cases. Concerning the administration of tuberculin he was still in doubt. He had seen similar results from other methods of treatment in cases like those described by Dr. Latham. Until they had a considerable number of cases treated by tuberculin they were not justified in drawing conclusions. His impression from the cases of *tuberculosis of the lung* under his care treated by tuberculin and serum was that favourable results were not observed in those cases which had not been doing well before the tuberculin treatment was started. He had treated a number of cases of tuberculous glands with tuberculin given three times a day by the mouth. The glands softened and became smaller and gradually subsided. He considered that in pulmonary tuberculosis much work had to be done before the matter was understood. The *results were encouraging and the treatment* was worthy of further trial, so that the best time to give tuberculin might be settled and the proper dose. Observations as to the relation of the opsonic index to the temperature were of value, because if the treatment depended on observations on taking the opsonic index then the progress of the method would be impeded, for it would be impossible to regulate the treatment by *opsonic index only.*

Dr. A. G. **AULD** thought that the cases brought forward by Dr. Latham were too few and inconclusive; they did not furnish any reliable guide for the medical practitioner.

Dr. H. D. **ROLLESTON** said that from what he had seen at St. George's Hospital there was a great future for the treatment. He described cases of gastric ulcer in which horse serum by the mouth had been successful, but *he contended* that though there was no doubt that horse serum did stop hæmorrhage *nevertheless the serum should be standardised.*

Dr. H. J. **JOHNSTON LAVIS** said that the successful treatment of tuberculous patients by means of meat juice might be explained by the fact that tuberculous meat had been accidentally selected.

Dr. S. **VERE PEARSON** related a case of a patient who had tuberculous disease of the right kidney in which since tuberculin *had been given by the mouth the patient had* been much freer from pain than before the treatment and the general condition had improved. He described another case of spinal caries in which relief from pain had been afforded by the treatment. He narrated the details of a case in which there were acute signs *of pulmonary tuberculosis* and in which for six months there had been constant *fever that persisted in spite of every remedy* being tried, but when the patient was given tuberculin and horse serum the temperature fell within three weeks' time and the pulse-rate became lower.

Mr. W. **STUART-LOW** said he thought that he would not be contradicted when he claimed to have been *the first to* employ fresh animal blood serum locally in *the treatment of* wounds. He had first used it at the Central Nose, Throat, and Ear Hospital as a dressing in the radical mastoid operation in a series of cases of chronic suppuration of the middle ear. This was two years ago, and in THE LANCET of May 4th, 1907, he had published a preliminary account of his results. This horse serum was *supplied by* Messrs. Burroughs, Wellcome, and Co., except in his earlier series of cases in which he had used serum obtained from the butcher, when the serum of lambs and sheep was employed. He now made use of fresh horse serum in a routine way in mastoid operations. The results had been very good and *gratifying to the* surgeon and the patient, as in this way the average time that the patients were detained in the hospital had been shortened to five days. With horse serum as a dressing the most *fœtid* and septic cases could have a thorough and extensive operation performed, and the risks of dangerous sequelæ such as septic meningitis could be minimised. His practical experience with horse serum led him to believe that there was a great future for it in surgery, and particularly in ear surgery.

Dr. **LATHAM**, in reply, said that it had been proved that animals could be immunised by feeding them on an *emulsion of dead tubercle bacilli provided it* was administered on an empty stomach but if given with food no immunity resulted. That was *conclusive that it was not right to give* vaccines together with food. As far as the opsonic index could be taken as a guide, better results were secured by giving serum on an empty stomach than with food. In his opinion the cases referred to by Dr. Mackenzie in which the results of the treatment were not satisfactory were cases in which it would have been a miracle if a cure had taken place. He admitted *that in those cases* where coughing caused auto-inoculation the treatment did not show the satisfactory results described in the cases which he had put forward. Answering a question from Dr. R. H. Hodgson, Dr. Latham said that in regard to the relation between exertion and the temperature in phthisical cases there was no doubt that exertion produced a rise in the temperature if undue auto-inoculation occurred. It was possible to treat phthisical patients by exercises and to utilise their own auto-inoculation *to secure immunity, but the amount of exercise* permitted had to be regulated carefully according to the temperature. In cases of acute pulmonary tuberculosis for the opsonic index to be of value it ought to be taken three or four times a day. In cases of chronic pulmonary tuberculosis *he considered that* the treatment could be carried out without the opsonic index, for in those cases the opsonic index *could be gauged by a consideration* of the clinical symptoms and the temperature of the patient.

ODONTOLOGICAL SECTION.

Extraction of an Upper Wisdom Tooth.—Pyorrhœa Alveolaris.—Heredity and Dental Disease.

A MEETING of this section was held on May 25th, Mr. J. **HOWARD MUMMERY**, the President, being in the chair.

Mr. W. **RUSHTON** gave as a communication Some Notes on the Extraction of an Upper Wisdom Tooth.

Mr. J. G. **TURNER** read a paper entitled Clinical *Notes* on Pyorrhœa Alveolaris. He found that clinically fully 50 per cent. of cases of pyorrhœa were furthest advanced in the molar region—i.e., it had commenced in that part. He had noted in the mouths of people who used their toothbrushes pyorrhœa absent at the labial gum margin of incisors, canines, and premolars, but well advanced elsewhere, where the toothbrush less readily reached. In respect of its point of origin, pyorrhœa was clinically a dirt disease, like dental caries, *the dirt* being bacteria with or without food débris, and stagnation being *its* complement. The general age of onset, early adult life, was a point rather against Mr. Goadby's milk-borne theory, since raw milk was then but little drunk. Mr. Turner drew attention to the fragility of the affected teeth, which *led to* an unusually large average of fractured apices in extraction of *pyorrhœic teeth. The possible relationship* of acute pyorrhœa and ulcerative stomatitis was alluded to.

Mr. **STANLEY P. MUMMERY** read a paper on Heredity and Dental Disease. He first dealt with the neglect shown by the medical profession generally towards the important subject of heredity and *stated it as his belief* that dental caries in common with many other diseases owed *its origin* as well as *increasing prevalence* to hereditary *factors. The pathology of dental caries* had already been worked out by the late Dr. W. D. Miller, but its etiology still remained obscure. Disease in general was to be regarded as an undesirable variation from the normal, and as such was *kept in check by the law of the* survival of the fittest and consequent elimination of the unfit, including those susceptible to disease. In this way a race was gradually rendered immune to a particular disease *to which it might* become exposed. Dr. Archdall Reid had written on this subject and had *shown* how in the case of malaria races which had long been exposed to its infection, such as the West African negroes, had become gradually immune to the disease, not owing to the inheritance of acquired immunity, but owing *to* extermination of the more susceptible individuals, breeding only taking place among those who were less susceptible and *who therefore* survived. Among civilised races, however, this selective action of nature was prevented by modern science from exerting any influence on certain diseases, such as insanity and dental caries. In the case of insanity the insane were now treated with such skill that a large proportion recovered sufficiently to leave the asylums, when they could marry and have large families, many of whom inherited this insane diathesis; thus the real increase of insanity in modern times was the same with dental caries. Owing to the soft, easily-digested food of modern diets the full set of teeth was not necessary for mastication. Hence defective and carious teeth did not affect the individual to the extent of preventing him from having large families, as would be the case with savage men living on hard food needing thorough mastication. Thus by the absence of the action of natural selection and the consequent breeding among the unfit the number of susceptible individuals rapidly increased until now nearly every child was born of susceptible parents. The main cause of the modern increase of dental caries was therefore due to the increasing susceptibility in the teeth themselves, which was the fault of the absence of the action of natural selection in weeding out the more susceptible individuals.—Mr. F. J. BENNETT, Dr. J. SIM WALLACE, Dr. NORMAN G. BENNETT, Mr. K. W. GOADBY, and Mr. H. BALDWIN took part in the discussion.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A MEETING of this society was held on May 20th and partook of the nature of a dermatological clinique, Dr. JAMES RITCHIE, the President, being in the chair.

Dr. NORMAN WALKER gave a *résumé* of his work in the skin department of the Royal Infirmary during the last 16 months with special reference to groups of interesting cases and to those subjects at present attracting most attention. The experience of the department showed that Alopecia Areata was exceptionally prevalent in Edinburgh but the statistics required much more prolonged examination than he had yet been able to give them for coming to any conclusions as to possible epidemics of this disease. It was, however, remarkable that compared with the available statistics of London and Glasgow the proportion of cases of alopecia in Edinburgh was very distinctly greater. He brought before the meeting a small detachment of the many cases of Favus at present under treatment with the view of demonstrating how hopeless it was to expect satisfactory results in those placed in the social circumstances of the patients and he hoped that the matter would be taken seriously up by the new medical officer of health of Edinburgh. The disease was very common in Edinburgh; while it was easily cured amongst the better classes it was really a terribly incurable disease in the lower classes. Cases often required treatment during three or four years, and in one case the hair of the scalp had been removed by x rays on eight occasions in an endeavour to cure the disease. His statistics of Herpes Zoster showed quite clearly the epidemic nature of this disease, though the numbers were probably misleading, as many cases were treated in dispensaries, at home, and in the medical waiting-room. Impetigo showed striking variations, as was indeed to be expected with so eminently contagious a disease. Lupus Erythematosus occurred in the proportion of 1 per cent. of his cases. The most interesting fact to record in connexion with this was the reaction to Pirquet's method of vaccination with tuberculin. He had only recently had the opportunity of trying this, but in three cases of lupus erythematosus one showed the reaction and the other two were definitely negative. He said that he had not time to go into the matter, but these facts were interesting to those who maintained that lupus erythematosus was not a tuberculous disease. He next demonstrated a number of cases of Lupus Vulgaris which had been under treatment in the skin department for many years and claimed that in all forms of treatment the most essential element was perseverance. The administration of thyroid gland extract helped in the removal of the complications of lupus but it did not of itself cure the disease. He showed one case and a cast of another of Lupus Cancer. Both had been treated by erasion and the application of caustics with apparently complete success, and in one case a limb was saved to a young woman. He remarked that he believed that the disrepute into which the caustic treatment of carcinoma had fallen was due to timidity in its use. It was generally taught that carcinoma which occurred in young persons was of special virulence but he had not found this to be the case in those patients who suffered from lupus carcinoma. Nearly all of the patients who suffered from Molluscum Contagiosum attended one of the Edinburgh public baths. He demonstrated one case and a number of casts by Dr. Low or his assistant of Ringworm of the Nails, five cases of which had come under his notice in the last four months. Some of these had been unrecognised during many years and none had any evidence of the disease on the body. Of the 2500 cases with which he was dealing 62 had been cases of Rosacea. He referred briefly to his belief that this disease was generally seborrhœic in origin and that indigestion did not play the all-important part which many attributed to it. Careful inquiry was made in each case and only five of them were noted as suffering from indigestion, while in seven others there were headaches, constipation, and the like noted. He demonstrated a very satisfactory case from this point of view in the person of the patient who formed the subject of the illustration in the new edition of his book and who after two months' treatment showed no sign of the disease. In dealing with Sycosis he gave his experience of the vaccine method. He demonstrated the case of a man who had been treated by ordinary methods without success and who had been threatened with loss of his employment but who had almost entirely recovered under injection of vaccine prepared from his own staphylococci. In this connexion he referred to the use of tuberculin in lupus which he had found most valuable. The number of cases under his care made it impossible for the index to be taken in each, but he had found that a dose of 1-15,000th of a milligramme every four weeks had been followed by excellent results. He briefly referred to the number of cases of ringworm, 200 out of the 2500 cases, and while admitting the merits of the new x ray treatment he had not found that it was so invariably successful as had been sometimes claimed. Lastly, he demonstrated the cast of a case of Actinomycosis as it appeared when it came under his care six months ago; the patient had entirely recovered under the administration of very large doses of iodide of potassium.

Dr. F. GARDINER showed several cases which were chiefly noteworthy from the point of difficulty in diagnosis. 1. A girl, aged 18 years, who suffered from what at first glance appeared to be a typical Pityriasis Rosea, the patches being slightly raised, scaly, and salmon coloured. The lesions were situated on the front and back of the chest and trunk but there was no Herald patch, and in addition the limbs were affected, whilst the scalp showed dry seborrhœa, while two favourite seats of seborrhœa (behind the ears and in the axillary folds) were sites of the eruption. In spite of a recent history (14 days) and no previous attack he inclined to the diagnosis of seborrhœa. 2. A case of Erythema Multiforme simulating secondary syphilis. It had occurred two months after the appearance of the primary sore, one week after the administration of mercury up to the limit of salivation, and it had continued a fortnight after the administration of the mercury had been given up. The eruption was itchy and affected the arms, the legs, and the face. Salicin was recommended. 3. A case of Erythema Scarlatiniforme, universal and coming on one month after stopping the use of copaiba for gonorrhœa. It had all the characters of a drug rash. 4. A case of Favus of the Scalp closely resembling tinea, and in which there were broken hairs, grey scales, no scutula and no mousy odour. It was diagnosed by the microscope. 5. A patient who had been x-rayed four years previously for Tinea Capitis. Complete epilation had then occurred and there was a splendid growth of hair now present. She had developed a fresh attack, but this was of the large-spored type. 6. The mother of this last child suffering from typical Alopecia Areata. Microscopic examination had shown no trace of fungus. 7. Alopecia of the Scalp and Scarring of the Face following on a recent attack of small-pox. 8. Four cases of Rodent Ulcer under X Ray Treatment.

Dr. R. CRANSTON LOW exhibited: 1. A case of Pemphigus Foliaceus in a woman, aged 53 years. The disease had commenced 11 years ago and at first the eruption closely resembled dermatitis herpetiformis. Three years ago the affection became generalised and exfoliating. The general nutrition was good. The patient had been treated with a vaccine made from the contents of the blebs and with a marked improvement. 2. A case of Early Mycosis Fungoides in a woman, aged 52 years. The eruption had commenced on the palms and soles 14 months ago and resembled a case of psoriasis. Since this time numerous red, scaly points had appeared until nearly the whole of the body was affected. About a month ago, on the backs of both feet, small tumour-like masses had appeared. The patient was being treated by the x rays. 3. Kerion of the Scalp due to the small spore fungus in a boy. 4. A case of Rupia which was under the care of Mr. Alexander Miles in the Lock wards. The eruption showed the typical limpet-shaped crusts. On the face there were other crusted and oozing lesions as well as on the body and limbs. The patient's husband had been treated in the Lock ward in December, 1907, for a primary sore.

Dr. J. S. FOWLER showed a case of Urticaria Pigmentosa in a child.

Mr. HENRY WADE demonstrated (1) a remarkable case of Hyperkeratosis Plantaris from a lunatic patient, and (2) a case of Mycetoma.

Reviews and Notices of Books.

A Manual of Venereal Diseases. By Officers of the R.A.M.C. Oxford Medical Publications. London: Henry Frowde, Oxford University Press; and Hodder and Stoughton. 1907. Pp. 282. Price 5s. net.

THIS work gives an account of the information contained in the reports made to a sub-committee appointed by the Army Medical Advisory Board to consider the question of treatment of venereal disease in the army. It is intended to act as a convenient manual for the use primarily of the army medical officer to assist him in his daily work in the prevention and treatment of venereal disease. Sir Alfred Keogh in his introduction, after alluding to the effect of improved hygiene on the gradual decline of venereal disease in this country, as contrasted with the absence of this decline in India and the Colonies, where sanitary control is more difficult and complicated, alludes significantly to the low incidence of these affections in continental armies, which he rightly says is due mainly to systems of legislative control, and he points out how the two great Anglo-Saxon States, whose attitude to legislative control is similar, have a far larger incidence of venereal disease in their armies than any other country. A striking instance of this occurred not many years ago in one of our hill stations in India. Here a diseased prostitute was living in a hut about ten yards outside cantonment limits. She was visited daily and infected daily the soldiers of the garrison, yet at that time nothing could be done by the officer commanding the station.

Lieutenant-Colonel C. H. Melville, R.A.M.C., contributes the section comprising the history, statistics, and invaliding from venereal diseases. Taking the troops stationed in the United Kingdom, there has been a steady fall in the invaliding-rate for syphilis since 1902, due probably to the introduction of the treatment by the injection of mercury, with which the name of Colonel F. J. Lambkin, R.A.M.C., is so honourably associated. Thus since 1905 no men of the Brigade of Guards have been invalided for syphilis since this method was practised. With regard to the army in India we find an increasing rate of admissions from 1880 to 1888, the year in which the Contagious Diseases Act was abolished in India. Then the admissions rapidly increased, attaining their maximum between 1894 and 1896, since when the fall has been rapid and continuous, due to the introduction of the Cantonment Act of 1897. Lieutenant-Colonel Melville gives a *résumé* of the measures adopted by the various foreign countries to cope with this evil and the more stringent rules in these countries are shown by a comparative statement of the incidence of venereal diseases in the several armies to effect their purpose admirably; for example, the admission per 1000 in the German army in 1900 was 17·8 as contrasted with 93·4 in the British.

The subjects of clinical pathology and bacteriology are contributed by Colonel W. B. Leishman, R.A.M.C. The history of the research for the micro-organism is admirably given, the account of the spirochæta being one of the best in the English language. Major C. E. Pollock has contributed the section on the clinical course and treatment. He considers the following practical points as regards (1) the commencement of treatment, which he holds should be instituted as soon as, but not before, the diagnosis of syphilis has been made; (2) the period for the administration of mercury is considered to be two years, provided it is thoroughly carried out; (3) the general scheme of treatment, whether continuous or intermittent, the latter being held to be the most advantageous in the case of the soldier; and (4) the methods of administering mercury, whether by the mouth, by the skin, or by injection. The last is undoubtedly the best from an army point of view, and as this is the case the reader will find its technique laid down with precision as regards all its parts.

The volume concludes with the subjects of soft chancre and gonorrhœa and has several valuable appendices. In conclusion, we can say that this manual admirably fulfils the purpose for which it was compiled.

American Practice of Surgery: A Complete System of the Science and Art of Surgery by Representative Surgeons of the United States and Canada. Editors: JOSEPH H. BRYANT, M.D., LL.D., and ALBERT H. BUCK, M.D., of New York City. Complete in eight volumes. Profusely illustrated. Volume III. New York: William Wood and Co. 1907. Pp. 775. Price $7.

THE third volume of this elaborate system of surgery deals with the important subjects of injuries and diseases of bone and injuries and diseases of joints, in addition to a comparatively short section on poisoned wounds, including the bites and stings of animals and insects. This section on poisoned wounds treats of many animals the likes of which are not met with in this country but the accounts are good. Erysipelas comes next. The author, Major C. F. Mason, surgeon in the United States Army, holds that the streptococcus erysipelatis is identical with the ordinary streptococcus pyogenes; but he gives no hint that in recent years a differentiation of various species of streptococci has been possible and that in all probability the streptococcus of erysipelas is specifically distinct, even though it is capable of causing septicæmia. Accounts of various infected wounds follow, such as anthrax, tetanus, and actinomycosis; they need no comment. Dr. G. G. Rambaud of New York has contributed the article on Hydrophobia; it is very good and an excellent plate showing "Negri bodies" is given.

Dr. Duncan Eve of Nashville has written the section on Fractures. In the description which is given of Colles's fracture no mention is made of the fact that skiagrams have shown that in a large proportion of the cases there is also a fracture of the neck or styloid process of the ulna. It is useless to say (p. 131) in speaking of the treatment of fracture of the shaft of the humerus "Middeldorpf's triangle and Vulpius's aluminium splint are often applied in Germany for fractures of the shaft of this bone," without any account of these splints. Middeldorpf's triangle is certainly worthy of a fuller description as many surgeons consider it to be the best form of treatment for this fracture. Dr. T. Turner Thomas of Philadelphia has supplied the article on Pseudarthrosis and the various modern methods of treatment are detailed. The article on Inflammatory Affections of Bones is by Dr. George A. Peters of Toronto, and that on Non-Inflammatory Affections of Bones is by Dr. Roswell Park of Buffalo; both are excellent. Dr. J. Shelton Horsley's paper on Syphilitic Disease of Bone seems to be complete and the treatment is judicious. The following sentence, however, may be easily misunderstood: "The best ointment is one prepared from the following formula: Compound tincture of benzoin ʒss.; mercury and lanolin each ℥j." It is highly probable that the author intended to write "mercury ointment" in place of "mercury."

Tumours originating in Bone are dealt with by Dr. Channing C. Simmons of Boston, Massachusetts, who supports the idea that ivory exostoses arise from persistent fragments of the chondrocranium, though no cartilage is ever found in connexion with these exostoses. He gives no reason why they should not arise from the periosteum, by far the most probable source. The article is very good and is well illustrated. We are glad to see that an account is given of echinococcus disease of bones, for many text-books hardly mention it. The name of the collector of cases of this disease should be Targett, and not Taggett.

Dr. C. F. Painter of Boston has undertaken the subject of Chronic Non-tuberculous and Non-traumatic Inflammations of Joints. He has given a very good account of the atrophic and hypertrophic forms of arthritis. It seems a pity to call "loose bodies" in a joint "foreign bodies," for it leaves us with no convenient name for a true foreign body in a joint. Syphilis of joints is a subject often much neglected; it is well treated here. Dr. Alexander Primrose of Toronto has contributed the article on the very important subject of Tuberculous Diseases of Bones and Joints. It occupies more than 160 pages and is quite a treatise on the subject. Especially good are the sections on treatment, for they are very practical. The concluding chapter in this volume is on Wounds of Joints, by Dr. John C. Oliver of Cincinnati. Dr. Oliver includes all forms of injury under the title "wounds." He speaks of washing out an infected knee-joint but he does not tell the reader what solution should be employed.

Handbuch der Tropenkrankheiten. (*Handbook of Tropical Diseases.*) With contributions by Dr. A. BAELZ, Fleet-Surgeon P. W. BASSETT-SMITH, R.N., Dr. P. VAN BRERO, Dr. C. L. VAN DER BURG, Dr. A. CALMETTE, Dr. CARROLL, Dr. A. EYSELL, Dr. D. DENNIG, Dr. P. KRAUSE, Major W. B. LEISHMAN, R.A.M.C., Professor Dr. A. LOOSS, Dr. MAX LÜHE, Dr. W. G. MACCALLUM, Dr. L. MARTIN, Dr. K. MIURA, Dr. A. PLEHN, Dr. R. PÖCH, Dr. F. RHO, Dr. R. RUGE, Dr. TH. RUMPF, Dr. L. SANDER, Dr. A. VAN DER SCHEER, Dr. K. SCHILLING, Professor Dr. G. STICKER, and Dr. H. ZIEMANN. Edited by Dr. CARL MENSE. Third volume. With 315 illustrations. Leipsic: J. A. Barth. 1908. Pp. 818.

THIS is the third and concluding volume of this admirable treatise on tropical diseases, the two former volumes of which we have already reviewed. Judging from the names of the authors of the various chapters the reader will be led to expect articles of no ordinary value. Nor will he be disappointed. The three volumes of Dr. Mense's "Diseases of the Tropics" constitute indeed the most valuable treatise on tropical diseases extant. To Dr. R. Ruge is intrusted the subject of amœbic dysentery. Herein the student will find the characteristics of the various amœbæ succinctly described and illustrated with beautiful plates: the pathological anatomy and symptomatology are exhaustively given together with the treatment. Dr. W. G. MacCallum treats of tropical liver affections, of congestion and suppuration. The author believes in the connexion between dysentery and liver abscess. The localities into which the latter may burst are noted and a good description is given of the symptoms. We fail, however, to find any mention of the excellent method of treatment, that has proved so serviceable, instituted by Sir Patrick Manson. Dr. Max Lühe writes of the effects produced by the various protozoal organisms, the section on the trypanosomata being the most complete exposition with which we are acquainted. The whole subject is dealt with in 200 pages and is illustrated by some very artistic plates. Dr. Hans Ziemann writes on malaria; in the historical description of the discovery of the cause of this affection Professor Ronald Ross, we think, does not receive sufficient credit. An excellent plate is given portraying the evolution of the parasite. This article includes all that is known up to date, whilst the various methods of treatment are fully described. It is enriched by a full bibliography and by excellent drawings. Blackwater fever is described by Dr. Ziemann. The author holds that this disease depends on two factors—first, the presence in the patient of a disposition developed after a longer or shorter infection with malaria, and, secondly, the presence of certain factors provoking it, such as malaria alone, malaria plus quinine, quinine alone, or any condition impairing the resistance of the body. In the treatment the author states that the main considerations are to keep up the strength of the circulation, to remedy the tendency to suppression of urine, and to stop the hæmocytolysis. Our own countryman, Major W. B. Leishman, R.A.M.C., treats of kala-azar, a subject on which he is a well-known authority. The various views of this affection are given and the characteristics of the Leishman-Donovan organism are described and well illustrated. Dr. C. Mense describes trypanosomiasis and sleeping-sickness. This article leaves nothing to be desired and is accompanied with some excellent plates. Dr. F. W. Mott's researches and discoveries of the part played by the central nervous system are duly chronicled. Relapsing fever is described by Dr. C. Schilling and the description is fully up to date. The ornithodorus moubata is shown in a very good illustration. Dr. L. Sander and Dr. Hennig write of the glossina morsitans and the stomoxys and of nagana, of surra and dourine, piroplasmosis, African coast fever, South African horse sickness, and rinderpest, amongst other subjects. Dr. Filippo Rho treats of psittacosis and the volume concludes with a well-written chapter on the less known tropical diseases by Dr. Mense.

We have read the concluding volume of this treatise with much instruction and pleasure. It is certainly the mos comprehensive work on tropical diseases yet published and should find a place in the library of every student of those diseases.

The Townsman's Farm. By "HOME COUNTIES." London, Paris, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1908. Pp. 293. Price 6s. net.

THIS book is written by one who undoubtedly knows his subject well and who marshals his facts regarding farm life in its various aspects in an interesting and instructive manner. The first two chapters endeavour to show that the skill and ability of the farm labourer and the farmer are greatly underrated by the ordinary city dweller. "The Townsman's Farm" proves clearly that neither is Hodge a fool nor the farmer a blockhead. It is demonstrated that the good farm labourer is a remarkably able "handy man." As an apt illustration of the truth of this statement, the difficulties encountered in properly ploughing heavy land are pointed out, which it is asserted are as great as those of holding a boat's head to the wind in a sea. A comparison is made between a skilled farm labourer and a city bank clerk in favour of the former, not only so far as physique and staying powers are concerned but also as regards the value of his knowledge and experience. While we cannot but agree with most of the author's conclusions as to the efficiency of the farm labourer and the farmer and of the healthfulness of the lives led by both, it may be doubted whether the present-day labourer is quite so useful an all-round man on a farm as was his forefather. Again, in regard to the healthfulness of his life it is to be remembered that many of the cottages inhabited by farm labourers are overcrowded, ill-lighted, badly ventilated, and inadequately drained, oftentimes with a defective if not infected water-supply. The author is bold enough, as we have already pointed out, to hold up "Hodge" to comparison with the "typical bank clerk," to the "very possible advantage" of the former in "natural wit, acquired skill, and knowledge that a man sets store by at 60." We cannot follow him so far as this but are very ready to admit that to call a farm labourer an unskilled man is to proclaim a deep ignorance of the nature of his work.

The main object of the book, however, is to try to teach the townsman how to proceed when he desires to get "back to the land." The obstacles in his path are by no means minimised. He is told that he must first shed himself of his conceit and approach his task in a humble spirit. All the avenues which lead to farming are dealt with concisely but to the point. The agricultural colleges are discussed at some length, and the "fors" and "againsts" of this mode of learning the farming business are well set forth. The question of small holdings, a burning question of the day, is adequately reviewed. To emigration and colonial farming are devoted several pages, all of which appear to contain sound common sense and wise advice. Indeed, every phase of farming comes under brief notice.

A welcome note of optimism pervades the book throughout. The position of the British farmer is not painted in the black colours which are so usually employed, and it is refreshing and healthy in itself to have the opinion of an authority that there is a fair chance of success for the overworked and debilitated townsman not only in our colonies but even in Great Britain if the matter be grappled with determination and energy. At any rate, the gain to the individual from leading a strenuous life of hard work on the soil is too obvious to need emphasis and the townsman who is anxious so to do will find in these pages admirable advice for his guidance.

Atlas and Text-book of Human Anatomy. Vol. III. By Dr. JOHANNES SOBOTTA, Professor of Anatomy in the University of Würzburg. Edited, with additions, by J. PLAYFAIR MCMURRICH, A.M., Ph.D., Professor of Anatomy in the University of Toronto; formerly Professor of Anatomy in the University of Michigan. London and Philadelphia: W. B. Saunders Company. 1907. Quarto, pp. 342. Price 25*s.* net.

THE third and last volume of this Atlas is devoted to the remainder of the vascular system, the entire nervous system, and the organs of special sense, with the exception of the tongue and larynx, which were fully described in Vol. II. The mode of reproduction of the dissections is identical with that employed in the preceding volumes—viz., multicoloured lithography, autotype, and the three-colour process, while in conformity with the author's aims the text has been judiciously curtailed in order to produce a useful book for the student and the physician, rather than an atlas for the finished anatomist. The illustrations, all of which are faithful reproductions of actual dissections, are beautifully executed and show at a glance the relations of arteries, veins, and nerves, both to each other and to adjacent structures. The portion of the book devoted to the vascular system is divided into two sections dealing first with the arteries and secondly with the veins. This arrangement applies to the text rather than to the illustrations, for, whenever possible, the picture is a composite one of arteries, veins, and nerves. This commendable plan should be much appreciated by the student who requires a complete picture of a dissection rather than a view of a solitary vessel or nerve in a framework of muscle or bone. Where there are so many beautiful plates it is extremely difficult to single out any particular ones for distinction but we certainly think that those depicting the vessels of the head and neck and the pelvis are deserving of the highest praise.

The nervous system is treated in a very thorough manner. Commencing with the spinal cord and the brain, the author passes on to the cranial nerves, the spinal nerves and plexuses, and concludes with a description of the sympathetic system. Again in this section the text is more than amplified by a splendid series of drawings depicting sections and surface views of the brain and dissections of the nerves and plexuses, all of which give the reader a very clear idea of these important structures. The concluding chapters devoted to the eye and the ear contain a complete and accurate description of these organs and, as might be expected, are copiously illustrated.

We have nothing but praise for the work which, as an atlas, surpasses anything of its kind which we have yet seen and we wish it the success which it undoubtedly deserves.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Medicine. Vol. I. No. 1 (October, 1907), No. 2 (January, 1908), and No. 3 (April, 1908). Oxford: At the Clarendon Press. Subscription 25*s.* per annum. Single numbers 8*s.* 6*d.* net.—This new medical contemporary is edited by six eminent physicians—Professor William Osler, Dr. J. Rose Bradford, Dr. A. E. Garrod, Dr. R. Hutchison, Dr. H. D. Rolleston, and Dr. W. Hale White. They will have the assistance of several colleagues, amongst whom may be mentioned Sir R. Douglas Powell, Professor T. Clifford Allbutt, Dr. J. K. Fowler, Dr. Byrom Bramwell, and Dr. Norman Moore. The journal will be conducted on the lines of the *Journal of Hygiene* or the *Zeitschrift für Klinische Medicin* and will be devoted to the publication of original papers dealing with clinical medicine. It will also include critical reviews on special subjects and diseases, but with this exception the journal will be entirely concerned with original communications. The publication will form the official organ of the Association of Physicians of Great Britain and Ireland, bearing the same relation to that body as the *Journal of Physiology* bears to the Physiological Society. Having these objects the new journal is likely to advance the interests of British medicine throughout the world and will, it is hoped, tend to make advances in medicine made by British physicians more extensively known amongst foreign nations than at present appears to be the case. The first number contains several communications of considerable interest. Dr. James Mackenzie contributes an article on Abnormal Inception of the Cardiac Rhythm. He considers a class of cases in which a very prominent and easily recognised symptom is a continuous irregularity of the heart's action. Clinically, these cases are found under two conditions: first, in the later stages of mitral disease, especially of mitral stenosis; and secondly, in those cases of irregular heart action so common in advancing years and usually associated with arterio-sclerosis. He further considers that a consideration of these cases is of the highest importance in affording a key to the pathology of the irregular heart. He contends that in such instances the normal sequence of the heart's contraction no longer prevails, that the ventricles alone may contract, or that the auricles and the ventricles contract simultaneously. As a deduction from the facts proving this proposition he suggests that the stimulus for contraction arises no longer from the usual place at the mouths of the great veins but at the *a-v* node described by Aschoff and Tawara situated at the auriculo-ventricular junction. Amongst other papers in this number dealing with the circulatory system are a Note on a Ready Method of Measuring the Venous Pressure without a Manometer, by Dr. George Oliver; and a Clinical Sphygmomanometer yielding Absolute Records of the Arterial Pressure, by Dr. A. G. Gibson.——No. 2 contains a careful paper upon the Pathology of the Cerebro-spinal Fluid derived from Lumbar Puncture, by Dr. J. Graham Forbes, based on 140 cases examined at the Great Ormond-street Hospital for Sick Children during the last three years. Dr. C. Rolleston contributes a Study of Certain Reflexes in Scarlet Fever, which contains some interesting clinical observations, especially that which records the temporary replacement of the flexor by the extensor plantar reflex in severe cases of the disease. Dr. James Mackenzie writes on the Extra-Systole: a Contribution to the Functional Pathology of the Primitive Cardiac Tissue, in a careful and learned paper in which he adduces evidence in favour of attributing the origin of extra-systoles to affection of the remains of the primitive cardiac tube. Dr. David Forsyth contributes an admirable first part to an essay upon the Parathyroids, dealing in this paper with their function and relation to the thyroid gland, of which we gave an account in THE LANCET of Feb. 29th, 1908, p. 659. Dr. Alexander G. Gibson contributes a study upon the Action of Digitalis on a case of Morbus Cordis, with many illustrative cardiograms, in which he observed the effect of the drug on four of the primary functions of cardiac muscle, and he also writes on the Heart in a case of Stokes-Adams Disease. Dr. Lewis Jones writes upon the interesting question of Cervical Ribs and their Relation to Atrophy of the Intrinsic Muscles of the Hand; and Dr. J. H. Drysdale and Dr. W. P. Herringham upon an Undescribed Form of Dwarfism with Spatulate Hands, a paper illustrated by reproductions of striking photographs. A beautiful colour plate illustrates a case of Ochronosis, reported by Mr. Edgar Reid, the clinical features being described by Professor William Osler and the urine by Dr. A. E. Garrod. The number is concluded by a Critical Review of Recent Work on Mediterranean Fever by Dr. J. W. H. Eyre who is admirably qualified to undertake such a contribution.——The first article in No. 3 is by Dr. F. J. Poynton who has done much to advance our knowledge of the subject of rheumatism. The present contribution deals first with the question of the frequency of acute rheumatism in children under five years of age. Some have maintained that acute rheumatism is very rarely if ever seen under the age of five years. Dr. Poynton has collected 52 cases in children under five and his paper is based on a study of these cases. The mortality was high. Eight cases died and five more were in a hopeless condition. 22 made partial recoveries with permanently damaged hearts. In seven out of the eight fatal cases a terminal pericarditis was present but the disease was unmistakeably rheumatism. In order to show the differences between these cases of rheumatic pericarditis and suppurative pericarditis from other causes, Dr. Poynton has collected and analysed 100 cases of suppurative pericarditis in childhood, the great majority of which were pneumococcal in origin. Eight were probably not pneumococcal in origin and were associated with acute osteo-myelitis and suppurating wounds, and in these there were multiple pyæmic abscesses. In the pneumococcic cases endocarditis was almost always absent, for only 1 per cent. showed any valvular lesions. In only one of the pneumonic cases was pericarditis the outstanding lesion; three cases showed signs of old pulmonary disease; 54 were associated with empyema and 31 with acute pleurisy or pneumonia; two with acute pulmonary tuberculosis, and eight with septic broncho-pneumonia. In 150 cases of fatal rheumatism in patients under the age of 12 years, which Dr. Poynton analysed ten years ago, 149 showed a valvular lesion. From a study of these cases he holds that rheumatism, though unusual, is by no means rare under the age of five years and that the facts connected with the disease in children strongly support the specific nature of the infection. The 52 cases are detailed. Mr. C. H. Treadgold has contributed a paper on Chloroma and Acute Lymphatic Leukæmia. The account begins with a description of four cases. In the first case a man died six days after the removal of a tooth, followed by persistent oozing of blood, and he had numerous purpuric patches. At the necropsy all the organs examined showed multiple small hæmorhages and there was marked degeneration of the small blood-vessels and their walls were infiltrated by the white cells of the blood. Mr. Treadgold points out the resemblances between chloroma and acute lymphatic leukæmia; he shows that the incidence of the disease is alike as regards age and sex and the symptomatology is very similar; in each there are present weakness, marked anæmia, a tendency to hæmorrhages, and metastases in the liver and kidneys and frequently in the lungs. The differences between the two diseases are chiefly these: in chloroma infiltration of the walls of the small blood-vessels is more marked, metastases are more frequent, the eroding power of the cells is greater, and the cells are on the whole larger and possess more protoplasm alike in the blood, the marrow, and the tissues. The primary growth in chloroma is often in the cranial bones and sometimes in the vertebræ. The initial growth appears not indefinitely in any part of the marrow but in the red marrow only. The question then arises, Does acute lymphatic leukæmia also originate in the marrow? and the answer is given that it does, and the reasons for this answer are: (1) that the marrow is always affected; (2) the cells in the infiltrations closely resemble the cells in the marrow and the blood; (3) the glands and spleen are seldom much enlarged and the more acute the condition the less the enlargement; and (4) the presence of a rapidly progressive anæmia due to deficient hæmatopoiesis. Mr. Treadgold suggests that acute lymphatic leukæmia has a special tendency to arise in the long bones. He discusses the causation of the green colour in chloroma; he rejects the theories that it is due to some pigment allied to bile pigment and that it is due to putrefaction. He is inclined to think that a degeneration of the abnormal myelocytes which exist in chloroma, aided by the broken-down products of hæmoglobin, is the real source of the colour. Mr. Treadgold sums up his opinions on acute lymphatic leukæmia and chloroma as follows: Acute lymphatic leukæmia is a tumour of malignant nature arising in the marrow of bones; the growth usually consists of amphoblasts, but leucoblastic and mixed types may occur. Chloroma is chiefly a tumour of myeloblasts and arises in the red marrow of bones. Dr. Forsyth continues his article on the Parathyroid Glands and in this number he deals with their pathology.[1] Mr. W. B. Hope and Dr. Herbert French have contributed a valuable paper on Persistent Hereditary Œdema of the Legs with Acute Exacerbations, or Milroy's Disease. They describe in detail the members of a family in which for five generations a certain number of the members (13 out of 42 individuals) have been liable to a persistent œdema of the legs. The cases described in this paper differ from the cases previously described by Milroy and others in that recurrent acute attacks also occurred. The authors consider that the condition is primarily a vaso-motor neurosis. The only treatment of any value is firm and constant bandaging of the legs, and if this bandaging is well carried out the affection does not seem to interfere with the occupation or life. The acute attacks, though dangerous in appearance, pass away spontaneously in a few days and in no case have they caused death. The paper is of the greatest interest, as very few instances of this disease have been recorded. Dr. A. M. Gossage's paper on the Inheritance of Certain Human Abnormalities is based on a number of investigations into hereditary diseases to see how far their occurrence is explicable by Mendel's law. Some of the conditions dealt with are keratosis palmaris et plantaris, epidermolysis bullosa, and hypotrichosis congenita. It seems to us a mistake to include such conditions as Mibelli's disease which some dermatologists look upon as microbic. The diagrams greatly facilitate the understanding of an intricate subject. Dr. A. E. Boycott has written a paper on Caisson Disease. This is due, as Bert showed, to bubbles of air being given off within the body during decompression. Saturation of the have already pointed out, to hold up "Hodge" to comparison with the "typical bank clerk," to the "very possible advantage" of the former in "natural wit, acquired skill, and knowledge that a man sets store by at 60." We cannot follow him so far as this but are very ready to admit that to call a farm labourer an unskilled man is to proclaim a deep ignorance of the nature of his work.

---

[1] THE LANCET, May 30th, 1908, p. 1568.

The main object of the book, however, is to try to teach the townsman how to proceed when he desires to get "back to the land." The obstacles in his path are by no means minimised. He is told that he must first shed himself of his conceit and approach his task in a humble spirit. All the avenues which lead to farming are dealt with concisely but to the point. The agricultural colleges are discussed at some length, and the "fors" and "againsts" of this mode of learning the farming business are well set forth. The question of small holdings, a burning question of the day, is adequately reviewed. To emigration and colonial farming are devoted several pages, all of which appear to contain sound common sense and wise advice. Indeed, every phase of farming comes under brief notice.

A welcome note of optimism pervades the book throughout. The position of the British farmer is not painted in the black colours which are so usually employed, and it is refreshing and healthy in itself to have the opinion of an authority that there is a fair chance of success for the overworked and debilitated townsman not only in our colonies but even in Great Britain if the matter be grappled with determination and energy. At any rate, the gain to the individual from leading a strenuous life of hard work on the soil is too obvious to need emphasis and the townsman who is anxious so to do will find in these pages admirable advice for his guidance.

Atlas and Text-book of Human Anatomy. Vol. III. By Dr. JOHANNES SOBOTTA, Professor of Anatomy in the University of Würzburg. Edited, with additions, by J. PLAYFAIR MCMURRICH, A.M., Ph.D., Professor of Anatomy in the University of Toronto; formerly Professor of Anatomy in the University of Michigan. London and Philadelphia: W. B. Saunders Company. 1907. Quarto, pp. 342. Price 25*s.* net.

THE third and last volume of this Atlas is devoted to the remainder of the vascular system, the entire nervous system, and the organs of special sense, with the exception of the tongue and larynx, which were fully described in Vol. II. The mode of reproduction of the dissections is identical with that employed in the preceding volumes—viz., multicoloured lithography, autotype, and the three-colour process, while in conformity with the author's aims the text has been judiciously curtailed in order to produce a useful book for the student and the physician, rather than an atlas for the finished anatomist. The illustrations, all of which are faithful reproductions of actual dissections, are beautifully executed and show at a glance the relations of arteries, veins, and nerves, both to each other and to adjacent structures. The portion of the book devoted to the vascular system is divided into two sections dealing first with the arteries and secondly with the veins. This arrangement applies to the text rather than to the illustrations, for, whenever possible, the picture is a composite one of arteries, veins, and nerves. This commendable plan should be much appreciated by the student who requires a complete picture of a dissection rather than a view of a solitary vessel or nerve in a framework of muscle or bone. Where there are so many beautiful plates it is extremely difficult to single out any particular ones for distinction but we certainly think that those depicting the vessels of the head and neck and the pelvis are deserving of the highest praise.

The nervous system is treated in a very thorough manner. Commencing with the spinal cord and the brain, the author passes on to the cranial nerves, the spinal nerves and plexuses, and concludes with a description of the sympathetic system. Again in this section the text is more than amplified by a splendid series of drawings depicting sections and surface views of the brain and dissections of the nerves and plexuses, all of which give the reader a very clear idea of these important structures. The concluding chapters devoted to the eye and the ear contain a complete and accurate description of these organs and, as might be expected, are copiously illustrated.

We have nothing but praise for the work which, as an atlas, surpasses anything of its kind which we have yet seen and we wish it the success which it undoubtedly deserves.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Medicine. Vol. I. No. 1 (October, 1907), No. 2 (January, 1908), and No. 3 (April, 1908). Oxford: At the Clarendon Press. Subscription 25*s.* per annum. Single numbers 8*s.* 6*d.* net.—This new medical contemporary is edited by six eminent physicians—Professor William Osler, Dr. J. Rose Bradford, Dr. A. E. Garrod, Dr. R. Hutchison, Dr. H. D. Rolleston, and Dr. W. Hale White. They will have the assistance of several colleagues, amongst whom may be mentioned Sir R. Douglas Powell, Professor T. Clifford Allbutt, Dr. J. K. Fowler, Dr. Byrom Bramwell, and Dr. Norman Moore. The journal will be conducted on the lines of the *Journal of Hygiene* or the *Zeitschrift für Klinische Medicin* and will be devoted to the publication of original papers dealing with clinical medicine. It will also include critical reviews on special subjects and diseases, but with this exception the journal will be entirely concerned with original communications. The publication will form the official organ of the Association of Physicians of Great Britain and Ireland, bearing the same relation to that body as the *Journal of Physiology* bears to the Physiological Society. Having these objects the new journal is likely to advance the interests of British medicine throughout the world and will, it is hoped, tend to make advances in medicine made by British physicians more extensively known amongst foreign nations than at present appears to be the case. The first number contains several communications of considerable interest. Dr. James Mackenzie contributes an article on Abnormal Inception of the Cardiac Rhythm. He considers a class of cases in which a very prominent and easily recognised symptom is a continuous irregularity of the heart's action. Clinically, these cases are found under two conditions: first, in the later stages of mitral disease, especially of mitral stenosis; and secondly, in those cases of irregular heart action so common in advancing years and usually associated with arterio-sclerosis. He further considers that a consideration of these cases is of the highest importance in affording a key to the pathology of the irregular heart. He contends that in such instances the normal sequence of the heart's contraction no longer prevails, that the ventricles alone may contract, or that the auricles and the ventricles contract simultaneously. As a deduction from the facts proving this proposition he suggests that the stimulus for contraction arises no longer from the usual place at the mouths of the great veins but at the *a-v* node described by Aschoff and Tawara situated at the auriculo-ventricular junction. Amongst other papers in this number dealing with the circulatory system are a Note on a Ready Method of Measuring the Venous Pressure without a Manometer, by Dr. George Oliver; and a Clinical Sphygmomanometer yielding Absolute Records of the Arterial Pressure, by Dr. A. G. Gibson.——No. 2 contains a careful paper upon the Pathology of the Cerebro-spinal Fluid derived from Lumbar Puncture, by Dr. J. Graham Forbes, based on 140 cases examined at the Great Ormond-street Hospital for Sick Children during the last

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, MAY 26TH.

THE President's address and part of the work transacted by the Council on this, the first, day of its eighty-seventh session were published in our last issue (p. 1592).

The Recognition of Quebec Degrees.

A report was received from the Executive Committee to the effect that Part II. of the Medical Act (1886) having been extended by an Order in Council to the province of Quebec it has considered the conditions under which certain medical qualifications granted in the province shall be recognised for registration in the Colonial List of the Medical Register of the United Kingdom, and on May 25th, 1908, it adopted the following resolution:—

> That any person who holds (1) the degrees of Doctor of Medicine and Master of Surgery of McGill University, Montreal, together with the Licence to practise in the *Province of Quebec; or* (2) the degree of Doctor of Medicine of Laval University, Quebec, together with the aforesaid Licence to practise, shall be entitled to be registered in the Colonial List of the Medical Register, provided he satisfies the Registrar of the General Medical Council regarding the other particulars set forth in Part II. of the Medical Act, 1886.

The PRESIDENT moved that the report of the Executive Committee on the Quebec degrees should be received, that the Registrar should be directed to give effect to the resolutions therein, and that the Council should express its satisfaction with the step which had been taken, and its desire that similar resolutions might soon be established for the other provinces of Canada. He added that perhaps the expression of the Council's goodwill would accelerate that progress.

Sir JOHN MOORE seconded the motion and it was agreed to.

The Apothecaries' Hall of Ireland.

The PRESIDENT moved that the report of the Executive Committee in regard to the duties of assistant examiners to the Apothecaries' Hall of Ireland should be received. That report stated that the committee submitted for the approval of the Council the following recommendations:—

> *First*, that the examiners appointed by the Council to assist at the qualifying examinations held by the Apothecaries' Hall, Dublin, be instructed to conduct the surgical portion of these examinations, and, in addition, to supervise the medical and obstetrical portions, with the object of securing that at each qualifying examination the required standard of proficiency is maintained. *Secondly*, that the examiners be instructed to report fully for the information of the Council as to the methods and standards actually adopted at each qualifying examination, and as to the steps they have taken in fulfilment of the duties imposed upon them by Section 5 of the Medical Act, 1886.

The PRESIDENT said that it was made clear to them that the reports were of a confidential character communicated to the Council and not coming under the standing orders relating to inspection and visitation.

Dr. SAUNDBY seconded the motion.

Dr. ADYE CURRAN said that with reference to the point of law he should be glad to have a definite ruling from the Council's legal assessor as to whether or not it was lawful and in accordance with the statute made and provided for those gentlemen who were appointed to act as assistant examiners by the Council, under Paragraph 2, Section V., of the Medical Act of 1886, to have reported as "inspectors" and for such reports to have been forwarded to the Privy Council. Indeed, it was quite evident from the fact of the words "acting also as your inspectors" having been omitted from the last reports submitted by the assistant examiners that the Council admitted the illegality of the action. This was a matter of very grave importance, affecting not only the reputation of the Council for justice and fair play but also the very existence of the body which he represented. For a number of years past the Council had lost no opportunity of penalising the Hall by every means in its power, and by imposing perpetual inspections and reports had materially injured it both in reputation and, what was of more importance, financially. He would therefore most respectfully ask the Council what reparation it was disposed to make in the future for the injury inflicted by its action in the past. The Executive Committee, apparently not yet satisfied, recommended that even still more elaborate reports should be furnished in the future by the Apothecaries' Hall of Ireland, but it was careful not to recommend that a like duty should be performed by the assistant examiners appointed under precisely similar terms to the Society of Apothecaries of London. Why was the exemption for London and not for Dublin? His board felt very keenly the action taken by the Council, for which there did not seem to have been any just cause. On their behalf he would ask the Council to discontinue, at least for the present, all reports and by resolution to cause those already illegally made to be rescinded, notifying the Privy Council accordingly. Failing that, his board might be obliged to seek a remedy elsewhere. He moved that the reports should be discontinued.

The PRESIDENT said that Dr. Adye-Curran had been under a misunderstanding in one of his remarks. The Council was not acting illegally in this matter.

Mr. HENRY MORRIS moved that the discussion should be postponed until the counsel to the Council was present.

Dr. LINDSAY STEVEN seconded this and it having been agreed to the discussion was adjourned.

WEDNESDAY, MAY 27TH.

The Council resumed its sittings at its offices in Oxford-street, to-day. Dr. DONALD MACALISTER, the President, was in the chair.

The Re-election of the President.

The official notification was made of the appointment of Dr. Donald MacAlister, the President, as Representative on the Council of the University of Glasgow.

The PRESIDENT thereupon said that in accordance with statute he had handed in his resignation as member for the University of Cambridge and by doing so he vacated the chair.

Mr. Tomes, as senior treasurer, took the chair.

Dr. MacAlister was then formally introduced to the Council as the Representative of the University of Glasgow. He was greeted with loud applause.

Dr. LITTLE said: I have much pleasure in moving that Dr. Donald MacAlister be elected President of the General Medical Council. I do not think it has ever occurred that the Council has had an opportunity of electing to this office a man of whose powers as President it was already aware. We have all admired the way in which the business of the Council has been conducted by Dr. MacAlister. His many-sided qualities have been most valuable to us. His uniform courtesy has pleased us all. His power of negotiating with Government departments is well known. His financial ability has asserted itself in retrieving our shattered finances. We have every reason to be pleased with the way in which he has discharged his duties. I am sure I only give an echo to the feelings of members when I propose that Dr. MacAlister be elected President.

Dr. McVAIL: As one of the electors of the University of Glasgow, which now returns Dr. MacAlister to this Council, I have very great pleasure in seconding the motion. I am sure we in Glasgow may well be proud in having the representative of our University as President of this Council. We know by the good work which he has done at Cambridge and Glasgow that the Council will prosper under his guidance.

The motion was carried by acclamation.

Mr. TOMES said: Dr. MacAlister, I have great pleasure to announce to you that you have been unanimously re-elected to the position of President of the General Medical Council. I congratulate you.

Dr. MACALISTER then resumed the chair. He said: I have most cordially to express my thanks for the too flattering words that have been spoken by Dr. Little and Dr. McVail and for the cordiality with which you have received them. It was a matter of profound gratitude to me when you entrusted me with the presidency of the Council three and a half years ago. I am doubly grateful and doubly proud that you have renewed that confidence to-day. I will endeavour to retain the confidence you have reposed in me. I thank you most heartily for the brotherly, friendly spirit with which I have always been received and supported in this Council.

The Council's Jubilee.

The PRESIDENT then moved that—

> The President, treasurers, and chairman of the Business Committee be appointed a committee to make arrangements for the celebration of the Council's jubilee in November, 1908.

He hoped that it would be possible to have some reunion on Nov. 23rd.

The motion was agreed to.

tissues takes place slowly: probably about five hours are required; therefore short exposures are much less dangerous than longer ones. Slow decompression is essential to avoid caisson disease but Dr. Boycott tells us that the absolute air pressure may always be reduced to half the absolute pressure at which the tissues are saturated without the risk of causing symptoms, but the slowness of the decompression increases as the pressure falls. Uniform decompression is too slow at first and too rapid later. Young men only should be employed and fat men should certainly be excluded. The only specific treatment of caisson disease is recompression which should be undertaken immediately symptoms appear.

The Quarterly Journal of Microscopical Science. Edited by Sir RAY LANKESTER, K.C.B., F.R.S., with the coöperation of ADAM SEDGWICK, M.A., F.R.S., SYDNEY J. HICKSON, M.A., F.R.S., and E. A. MINCHIN, M.A. With lithographic plates and text figures. New series. No. 203 (Vol. LI., Part 3). London: J. and A. Churchill. Price 10*s.* net.—The articles contained in this number are: 1. The Chætognathi or Primitive Mollusca, with a bibliography, by R. T. Günther, F.L.S., Fellow of Magdalen College, Oxford. The chætognathi are commonly named arrow worms and resemble in form the Whitehead torpedo and Mr. Günther's object is to show that the molluscan resemblances are shared by all the chief organs in the chætognath anatomy, as by the nervous, alimentary, genital, and other systems. He does not propose to merge them in any one of the existing molluscan classes but regards them as modern and modified representatives of a free-swimming ancestor from which the molluscan phylum has sprung. Mr. Günther considers the several organs in topographical order. 2. The Structure, Development, and Bionomics of the House Fly, Musca Domestica (Linn.). Part 1. The Anatomy of the Fly, by C. Gordon Hewitt, M.Sc., lecturer in economic zoology, University of Manchester. This article contains a full description of the anatomy of the house fly and is illustrated by many well-drawn plates. 3. Trichomastix Serpentis (new species), by C. Clifford Dobell, B.A., scholar of Trinity College, Cambridge, with a plate. Mr. Dobell states that the subject of the paper is a parasitic flagellate that he obtained from the rectum of a boa constrictor (Linn.). 4. Notes on Common Species of Trochus, by H. J. Fleure and Muriel M. Gettings, University College, Aberystwyth, with a plate. 5. Note on the Formation of the Skeleton in the Madreporaria, by Maria M. Ogilvie Gordon, F.L.S., D.Sc. Lond., Ph.D. Munich. 6. Studies in Spicule Formation. 7. The Scleroblastic Development of the Plate and Anchor Spicules of Synapta and of the Wheel Spicules of the Auricularian Larva, by W. Woodland, the zoological laboratory, King's College, London, with two plates and six text figures. Part 1. The Spicules of Synapta Inhærens and Synapta Digitata.

The Journal of Physiology. Edited by J. N. LANGLEY, F.R.S. Vol. XXXVII., No. 1, May 6th, 1908. London: C. F. Clay. Price 5*s.*—The articles contained in this number of the journal are: 1. Axon Bifurcation in Regenerated Nerves, by W. A. Osborne and Basil Kilvington, from the physiological laboratory, University of Melbourne. The experiments of these observers show that motor axon bifurcation can take place if a plurality of path is offered to a regenerating axon at some distance from its central point of regeneration; if a sensory and motor path be offered to the regenerating motor nerve one branch of the dichotomised axon passes to the muscle originally supplied by the undivided axon and the other branch travels down the sensory path. In the dog afferent nerve fibres cannot degenerate along motor paths. 2. Differential Method of Blood Gas Analysis, by Joseph Barcroft. 3. A note on the Total Fat of Rats, Guinea-pigs, and Mice, by A. E. Boycott and G. C. C. Damant, from the Gordon laboratory, Guy's Hospital. This article gives the relations in tame rats between size and fatness and between sex and fatness, and the weights of fats as estimated by Leathes' modification of Liebermann's method in guinea-pigs, dormice, and tame mice. 4. Crystalline Egg Albumin, by Edith G. Willcock, Fellow of Newnham College, Cambridge. Miss Willcock having occasion to prepare crystalline albumin in order to estimate the phosphorus that it contains found that following Hopkin's method the rotatory effect usually obtained by her was about 31. 5. On the Munchi Arrow Poison and Strophanthin, by George Ralph Mines, B.A., scholar of Sidney Sussex College, Cambridge. The poisonous properties of the Munchi arrow poison seem to be due to strophanthin glycoside. 6. Colchicine with special reference to its mode of action and effect on Bone Marrow, by W. E. Dixon, M.A., M.D., and Walter Madden, M.A., M.D. This number also contains the proceedings of the Physiological Society for Jan. 25th and for March 21st, 1908.

Verhandlungen des Vereins Süddeutscher Laryngologen, 1907 (Proceedings of the South German Laryngological Society). Würzburg: A. Stuber. 1907. Price 4 marks.—This volume of the South German Laryngological Society contains 17 papers:—1. A Case of Ichthyosiform Affection of the whole Surface of the Body and of the Upper Air Passages, by Siebermann. 2. A Contribution to the Knowledge of Toxic Laryngeal Paralyses, by Seifert. 3. (*a*) Laryngotomy without Cannula or Chloroform in Scopolamin-morphia Anæsthesia; and (*b*) Laryngoceles in Human Beings, by Avellis. 4. The Value of Transillumination in Disease of the Frontal Sinus, by Vohsen. 5. Microscopical Condition of the Mucous Membrane in Chronic Empyema of the Accessory Sinuses, by Oppikofer. 6. Further Experience in the Radical Operation for Chronic Empyema of the Sphenoidal Sinus, by Denker. 7. Demonstration of Universal Electro-medical Apparatus for Consulting-room and Operation-room, by Katz. 8. Œsophagoscopic Diagnosis of Disease of the Upper Section of the Alimentary Canal, by Starck. 9. (*a*) Further Report on Hypopharyngoscopy; and (*b*) Bronchoscopy, by von Eicksen. 10. Technique of Bronchoscopy, by Brünings. 11. Bronchoscopy, by Nager. 12. Meningitis following Acute Empyema of the Sphenoidal Sinus, Recovery, by Kander. 13. Local Serous Meningitis in Acute Sphenoidal Sinusitis, Spontaneous Recovery, by Avellis. 14. A case of Acute Leukæmia with Death after Adenotomy, by Hug. 15. (*a*) On Laryngological Dangers; and (*b*) On Theories of Asthma. All these excellent papers will amply repay careful perusal.

Le Laryngoscope. April, 1908. Paris: Maloine. Pp. 52. Price 2 francs.—This number contains a very interesting paper on Prolonged Dysphagia as a Relative Sign of Syphilis of the Œsophagus, by Dr. J. Garel; and a valuable paper by Dr. de Lalande on Gastroscopy. The latter is very fully illustrated and includes a coloured plate showing 24 views of conditions found in the stomach. There is also a short report of a case of Fibro-sarcoma of the Soft Palate by Dr. Molini. Besides this there is a short leading article on the treatment of epistaxis.

Geschichte der Laryngologie in Würzburg (History of Laryngology in Würzburg). Von Professor Dr. OTTO SEIFERT. Würzburg: Curt Kabitzsch. 1908. Pp. 63. Price 3½ marks.—In this book is set forth with careful accuracy and detail so thoroughly Teutonic the history of the twin specialties of rhinology and laryngology in Würzburg. This historical essay was compiled by Professor Seifert in honour of, and dedicated to, Professor B. Fränkel on his seventieth birthday. The records of the laryngological clinic and clinical instruction in this University go back to 1859, Dr. Gerhardt having been the first teacher.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, MAY 25TH.

THE President's address and part of the work transacted by the Council on this, the first, day of its eighty-seventh session were published in our last issue (p. 1592).

The Recognition of Quebec Degrees.

A report was received from the Executive Committee to the effect that Part II. of the Medical Act (1886) having been extended by an Order in Council to the province of Quebec it has considered the conditions under which certain medical qualifications granted in the province shall be recognised for registration in the Colonial List of the Medical Register of the United Kingdom, and on May 25th, 1908, it adopted the following resolution:—

That any person who holds (1) the degrees of Doctor of Medicine and Master of Surgery of McGill University, Montreal, together with the Licence to practise in the Province of Quebec; or (2) the degree of Doctor of Medicine of Laval University, Quebec, together with the aforesaid Licence to practise, shall be entitled to be registered in the Colonial List of the Medical Register, provided he satisfies the Registrar of the General Medical Council regarding the other particulars set forth in Part II. of the Medical Act, 1886.

The PRESIDENT moved that the report of the Executive Committee on the Quebec degrees should be received, that the Registrar should be directed to give effect to the resolutions therein, and that the Council should express its satisfaction with the step which had been taken, and its desire that similar resolutions might soon be established for the other provinces of Canada. He added that perhaps the expression of the Council's goodwill would accelerate that progress.

Sir JOHN MOORE seconded the motion and it was agreed to.

The Apothecaries' Hall of Ireland.

The PRESIDENT moved that the report of the Executive Committee in regard to the duties of assistant examiners to the Apothecaries' Hall of Ireland should be received. That report stated that the committee submitted for the approval of the Council the following recommendations:—

First, that the examiners appointed by the Council to assist at the qualifying examinations held by the Apothecaries' Hall, Dublin, be instructed to conduct the surgical portion of these examinations, and, in addition, to supervise the medical and obstetrical portions, with the object of securing that at each qualifying examination the required standard of proficiency is maintained. Secondly, that the examiners be instructed to report fully for the information of the Council as to the methods and standards actually adopted at each qualifying examination, and as to the steps they have taken in fulfilment of the duties imposed upon them by Section 5 of the Medical Act, 1886.

The PRESIDENT said that it was made clear to them that the reports were of a confidential character communicated to the Council and not coming under the standing orders relating to inspection and visitation.

Dr. SAUNDBY seconded the motion.

Dr. ADYE CURRAN said that with reference to the point of law he should be glad to have a definite ruling from the Council's legal assessor as to whether or not it was lawful and in accordance with the statute made and provided for those gentlemen who were appointed to act as assistant examiners by the Council, under Paragraph 2, Section V., of the Medical Act of 1886, to have reported as "inspectors" and for such reports to have been forwarded to the Privy Council. Indeed, it was quite evident from the fact of the words "acting also as your inspectors" having been omitted from the last reports submitted by the assistant examiners that the Council admitted the illegality of the action. This was a matter of very grave importance, affecting not only the reputation of the Council for justice and fair play but also the very existence of the body which he represented. For a number of years past the Council had lost no opportunity of penalising the Hall by every means in its power, and by imposing perpetual inspections and reports had materially injured it both in reputation and, what was of more importance, financially. He would therefore most respectfully ask the Council what reparation it was disposed to make in the future for the injury inflicted by its action in the past. The Executive Committee, apparently not yet satisfied, recommended that even still more elaborate reports should be furnished in the future by the Apothecaries' Hall of Ireland, but it was careful not to recommend that a like duty should be performed by the assistant examiners appointed under precisely similar terms to the Society of Apothecaries of London. Why was the exemption for London and not for Dublin? His board felt very keenly the action taken by the Council, for which there did not seem to have been any just cause. On their behalf he would ask the Council to discontinue, at least for the present, all reports and by resolution to cause those already illegally made to be rescinded, notifying the Privy Council accordingly. Failing that, his board might be obliged to seek a remedy elsewhere. He moved that the reports should be discontinued.

The PRESIDENT said that Dr. Adye-Curran had been under a misunderstanding in one of his remarks. The Council was not acting illegally in this matter.

Mr. HENRY MORRIS moved that the discussion should be postponed until the counsel to the Council was present.

Dr. LINDSAY STEVEN seconded this and it having been agreed to the discussion was adjourned.

WEDNESDAY, MAY 27TH.

The Council resumed its sittings at its offices in Oxford-street, to-day. Dr. DONALD MACALISTER, the President, was in the chair.

The Re-election of the President.

The official notification was made of the appointment of Dr. Donald MacAlister, the *President*, as Representative on the Council of the University of Glasgow.

The PRESIDENT thereupon said that in accordance with statute he had handed in his resignation as member for the University of Cambridge and by doing so he vacated the chair.

Mr. Tomes, as senior treasurer, took the chair.

Dr. MacAlister was then formally introduced to the Council as the Representative of the University of Glasgow. He was greeted with loud applause.

Dr. LITTLE said: I have much pleasure in moving that Dr. Donald MacAlister be elected President of the General Medical Council. I do not think it has ever occurred that the Council has had an opportunity of electing to this office a man of whose powers as President it was already aware. We have all admired the way in which the business of the Council has been conducted by Dr. MacAlister. His many-sided qualities have been most valuable to us. His uniform courtesy has pleased us all. His power of negotiating with Government departments is well known. *His financial* ability has asserted itself in retrieving our shattered finances. We have every reason to be pleased with the way in which he has discharged his duties. I am sure I only give an echo to the feelings of members when I propose that Dr. MacAlister be elected President.

Dr. MCVAIL: As one of the electors of the University of Glasgow, which now returns Dr. MacAlister to this Council, I have very great pleasure in seconding the motion. I am sure we in Glasgow may well be proud in having the representative of our University as President of this Council. We know by the good work which he has done at Cambridge and Glasgow that the Council will prosper under his guidance.

The motion was carried by acclamation.

Mr. TOMES said: Dr. MacAlister, I have great pleasure to announce to you that you have been unanimously re-elected to the position of *President* of the General Medical Council. I congratulate you.

Dr. MACALISTER then resumed the chair. He said: I have most cordially to express my thanks for the too flattering words that have been spoken by Dr. Little and Dr. McVail and for the cordiality with which you have received them. It was a matter of profound gratitude to me when you entrusted me with the presidency of the Council three and a half years ago. I am doubly grateful and doubly proud that you have renewed that confidence to-day. I will endeavour to retain the confidence you have reposed in me. I thank you most heartily for the brotherly, friendly spirit with which I have always been received and supported in this Council.

The Council's Jubilee.

The PRESIDENT then moved that—

The President, treasurers, and chairman of the Business Committee be appointed a committee to make arrangements for the celebration of the Council's jubilee in November, 1908.

He hoped that it would be possible to have some reunion on Nov. 23rd.

The motion was agreed to.

Penal Cases.

The Council then took up the consideration of penal cases.

The first was the consideration (adjourned from Nov. 27th, 1907) of the case of Duncan Shaw Morrison, registered as of Invergowrie, Perthshire, M.B., Mast. Surg. 1891, Univ. Edin., who had been summoned to appear before the Council to answer the following charges:—

That you were on the 24th day of September, 1906, convicted of the following crime or offence at Lochgilphead police court, namely, of breach of the peace, and on the 11th day of February, 1907, at the same court, of the same crime or offence, and on the 18th day of September, 1907, at the same court, of the following crime or offence, namely, of a contravention of Section 70 of the Licensing (Scotland) Act, 1903.

At the conclusion of the November proceedings the President announced that the Council had adjourned the consideration of the three convictions proved against Dr. Morrison until the May session, 1908, when he would be required to be present.

When the case was called Dr. Morrison failed to appear and the Council immediately proceeded to deliberate on it *in camerâ*.

When the public had been readmitted the PRESIDENT said: I have to announce that the Registrar has been directed to erase from the Medical Register the name of Duncan Shaw Morrison.

The next case was another which was adjourned from November. It concerned William Henry Roberts, registered as of 63, Lower Mount-street, Dublin, Lic. R. Coll. Phys. Edin. 1885, Lic. R. Coll. Surg. Edin. 1885, who had been summoned to appear before the Council on the following charge:—

That you have knowingly assisted certain persons who are not registered as dentists—namely, Mr. Keogh, of No. 4, Lower Mount-street, Dublin, and Mr. John Blake Dillon, Messrs. William-Steyn, and Mr. M. William-Steyn, all of 23, Rathmines-road, Dublin, in performing operations in dental surgery by administering and offering to administer anæsthetics, and have so enabled these persons to treat patients and to engage in dental practice as if they were duly qualified in dentistry and dental surgery; and that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the Irish branch of the British Dental Association. At the conclusion of the November proceedings the President said to Mr. Roberts: I have to inform you that the Council has found the facts alleged against you proved to its satisfaction, and that the further consideration of the facts proved has been adjourned till the session that will be held in May next on a day of which you will receive due notice, and when you will be expected to be present.

Mr. ROBERTS, who appeared in person, said that since his case was under consideration in last November he had strictly adhered to the undertaking given on his behalf. It was not his intention to offend in any way again.

After deliberation *in camerâ*, the PRESIDENT announced the decision of the Council as follows: Mr. Roberts, the Council having further considered the facts proved against you does not judge you guilty of infamous conduct in a professional respect. The case is closed.

Mr. ROBERTS: I wish to express my regret at having offended against the regulations of the Council.

The PRESIDENT: The Council will take note of your expression.

The Council passed on to the consideration (adjourned from Nov. 29th, 1907) of the case of Morgan Watkin Williams, registered as of Trewernen, Llantwitfardre, Pontypridd, South Wales, M.B., Bac. Surg. 1900, Univ. Glasg., who had been summoned to appear before the Council on the following charge:—

(1) That you, being a duly qualified and registered medical practitioner, while acting as assistant to Mr. John Bernard Gabe, also a duly qualified and registered medical practitioner, by your countenance, assistance, and coöperation knowingly enabled an unqualified and unregistered person—namely, Mr. Frank Hannah—who was also acting as assistant to the said J. B. Gabe, to attend and treat patients and engage in medical practice as if the said F. Hannah were duly qualified and registered; (2) that you signed a certificate of death—namely, of Alice Mary Jenkins—which stated that you had attended the said Alice Mary Jenkins in her last illness, and that you last saw her alive on May 4th, 1907, whereas in fact you had not so attended her or seen her, but the said Frank Hannah had alone attended and seen her; and that in relation thereto you have been guilty of infamous conduct in a professional respect.

At the conclusion of the proceedings in November the President, addressing Mr. Williams, said: In your case the Council has come to the decision that the facts alleged against you have been proved to its satisfaction, but has adjourned the further consideration of the facts proved until the May session, when you will be required to be present and to furnish evidence of your conduct in the interval, especially in relation to the giving of certificates and association with unqualified assistants.

Mr. WILLIAMS appeared in person. He said that he was sorry for what had occurred. He had had no intention of deriving any pecuniary benefit from it. He had not been associated with any unqualified assistants since and he had not signed any death certificates except in proper order. He need not say that this matter would never occur again.

After deliberation *in camerâ* the PRESIDENT announced the decision of the Council. He said: Mr. Williams, the Council have further considered the facts proved against you and they do not judge you guilty of infamous conduct in a professional respect.

The next case for consideration was that of James Brookes, registered as of 88, St. Paul's-road, Sparkbrook, Birmingham, but who had also a surgery at 105, Ladypool-road, Birmingham, Lic. R. Coll. Phys. Edin. 1871, Lic. Fac. Phys. Surg. Glasg. 1871, who had been summoned to appear before the Council on the following charge:—

That you have knowingly authorised or allowed an unqualified and unregistered person—namely, one J. W. Austin Brookes—to attend and prescribe for patients in your name and on your behalf and to sign in your name documents purporting to be medical certificates of the unfitness of children to attend school, without having yourself attended the children, and thereby have enabled the said J. W. Austin Brookes to act in relation to these cases as if he were a person duly qualified and registered. In particular the said J. W. Austin Brookes has attended and prescribed for the following persons—viz., Minnie Fisher, Elsie Preece, and Lilian Meadows; and the said J. W. Austin Brookes has signed such certificates in the following cases—namely, Minnie Fisher, Elsie Preece, and Lilian Meadows.

The matter was brought to the notice of the Council by the Education Committee of the city of Birmingham.

Mr. Brookes attended in person and was accompanied by Mr. John Pritchard, of Messrs. T. W. Walthall and Pritchard of Birmingham, his solicitors.

The Solicitor to the Council (Mr. WINTERBOTHAM) read various letters and statutory declarations in connexion with the case.

Evidence was submitted on behalf of the complainants. Mr. BROOKES gave evidence on his own behalf and Mr. J. W. A. BROOKES also appeared as a witness.

The Council at the conclusion of the hearing reserved its decision until the following day.

The Council then adjourned.

THURSDAY, MAY 28TH.

The Council resumed its sittings to-day, Dr. DONALD MACALISTER, the President, being in the chair.

Penal Cases.

The consideration of the decision in the case of James Brookes, registered as of 88, St. Paul's-road, Sparkbrook, Birmingham, adjourned from the previous day was then resumed.

After deliberation *in camerâ* the PRESIDENT announced the decision as follows: Mr. Brookes, I have to announce to you that the Council having carefully considered the facts proved against you have decided to direct the Registrar to erase your name from the Medical Register.

The Council then took up the consideration (adjourned from Nov. 27th, 1907) of the case of John P. Rafter, registered as of 338, Stanley-road, Bootle, Liverpool; Lic. Apoth. Hall, Dubl. 1882; Lic. K.Q. Coll. Phys. Irel. 1886; Lic., Lic. Midwif. 1892, R. Coll. Surg. Irel., who had been summoned to appear before the Council on the following charge:—

That you have systematically sought to attract patients in Great Crosby and Waterloo, Lancashire, by the distribution of cards from house to house and in the street; and that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants were the Medical Defence Union, who were represented by Dr. Bateman.

At the conclusion of the proceedings in November the President, addressing Mr. Rafter, said: I have to announce to you that the Council have found the facts alleged against you in the notice of inquiry have been proved to their satisfaction and that they have adjourned the further consideration of your case to the May session of the Council, when you will be expected to be present and to produce evidence as to your conduct in the interval.

Mr. RAFTER submitted several certificates testifying to his character. These included letters from the professor of midwifery in the University of Liverpool, the medical officer of health of the Waterloo urban sanitary district, the coroner for South-West Lancashire, the Mayor of Bootle, and other gentlemen.

Dr. **BATEMAN** made a statement to the Council.

Mr. **RAFTER** said that he had carried out the instructions of the Council and had handed in evidence with respect to his conduct. He explained that he was in the height of the municipal elections when the incident complained of occurred. He never authorised the distribution of the cards in the way in which they had been distributed. He complained that the charge brought against him had caused him great financial loss. The cards complained of were not intended to be distributed broadcast. He was very sorry and the incident had given him no end of worry.

After the usual deliberation *in camerâ* the **PRESIDENT**, in announcing the decision, said: Mr. Rafter, I have to announce to you that the Council having further considered the facts proved against you does not judge you guilty of infamous conduct in a professional respect.

Mr. **RAFTER** expressed his gratitude to the Council for its decision.

Consideration was then given to a charge against Frederick Aubin Monks, registered as of Woodcliffe House, Burgess-hill, Hampstead, N.W., Lic. Soc. Apoth. Lond. 1871; Mem. R. Coll. Surg. Eng. 1871; Lic. R. Coll. Phys. Edin. 1873.

The complainants in this case were the Medical Defence Union. Mr. Monks was represented by Mr. C. F. Gill, K.C., who made a statement on his behalf to the effect that his conduct was not such as to bring it within the charge.

The **PRESIDENT**, after the Council had come to their finding *in camerâ*, said: Mr. Monks, I have to tell you that the Council have come to the following decision. The facts alleged against you have not been proved to the satisfaction of the Council. That closes the case.

The next case to come under consideration was that of Stanley Southam, registered as of 512, Rochdale-road, Manchester, Lic. Soc. Apoth. Lond. 1900, who had been summoned to appear before the Council on the following charge:—

> That you acted as "cover" to an unregistered dentist—namely, Mr. Sydney Smith of 163, Conran-street, Harpurhey, Manchester—by systematically acting for him in your own surgery, in respect of the treatment of patients sent to you by him for dental operations requiring an anæsthetic, and that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants again in this case were the Medical Defence Union. Mr. Southam was accompanied by his solicitor, Mr. Hamilton, Manchester, who made a statement on his behalf.

Mr. **SOUTHAM** gave evidence with regard to his own position. He said that his cards, which Smith had got, were not given to him by witness, but in his absence they had been obtained from Mrs. Southam. He had not paid Smith a penny. There was absolutely no arrangement between him and Smith.

The **PRESIDENT** announced the decision of the Council as follows: Mr. Southam, I have to inform you that the Council having considered your case have come to the conclusion that the facts alleged against you in the notice of inquiry have not been proved to their satisfaction. That closes the case.

The Council proceeded to deal with a complaint against Mr. Arthur Ward which had been reported on by the dental committee. The registrar read the report which contained the following passage:—

> The Committee find that the following facts were established by the evidence: Arthur Ward was registered in the Dentists Register on Feb. 25th, 1883, as in practice before July 22nd, 1878, and his address in the Register for the current year is 61, Bull-street, Birmingham. The said Arthur Ward has issued and circulated a pamphlet containing statements of an objectionable character, viz., laudatory statements as to his own skill and methods, and depreciatory statements as to the work of other practitioners, and claims of superiority over other practitioners. After receiving notice of the charge in this case the said Arthur Ward withdrew the said pamphlet and issued another pamphlet which omits certain depreciatory statements as to the work of other practitioners, but contains laudatory statements as to his own skill and methods. The said Arthur Ward expressed his willingness to undertake to withdraw the pamphlet altogether and not to issue any similar advertisements in future.

The British Dental Association, the complainants, were represented by counsel, Mr. Hart. Mr. Ward was accompanied by his solicitor, Mr. W. Coley of Birmingham.

Mr. **HART** pointed out that the undertaking of Mr. Ward was "not to issue any similar advertisements in future." There was no undertaking that he would not indulge in any further advertising.

Mr. **COLEY** said that his client was perfectly willing to give an undertaking in the fullest terms desired. He was prepared to give up any pamphlet or advertisement at all with regard to his practice.

The **PRESIDENT** announced the decision of the Council in the following terms: Mr. Ward, I have to tell you that the Council have carefully considered the report of the Dental Committee and they have adjourned the further consideration of your case until the next session of the Council to be held in November, when you will be required to appear and to give evidence as to your conduct in the interval, and especially in regard to the performance of your undertaking not to issue advertisements of any description in future.

Mr. **WARD**: I would like to express my extreme regret at having transgressed against the resolution of the Council and I thank you for your consideration.

The next complaint was against William John Watson. The Dental Committee had given it their consideration and their report was read by the Registrar. It contained the following statement:—

> The committee find that the following facts were established by the evidence:—William John Watson was registered in the Dentists Register on Dec. 31st, 1878, as in practice before July 22nd, 1878, and his address in the Register for the current year is 8, New-street, Birmingham. In the year 1881 the qualification of Licentiate in Dental Surgery of the Royal College of Surgeons, Edinburgh, was added to his name in the Dentists Register. He was, however, deprived of that diploma by the College in the year 1891 for advertising contrary to the declaration signed by him on admission.
>
> In the year 1901 the said William John Watson caused to be printed, issued, and circulated a pamphlet containing statements of an objectionable character—viz., laudatory statements as to his own skill and methods, and depreciatory statements as to the work of other practitioners and claims of superiority over other practitioners. This pamphlet contains a statement that the said William John Watson had obtained the above-mentioned diploma by examination. Testimonials are also printed in the pamphlet which state that the said William John Watson possesses the said diploma. These testimonials are not dated, but they were in fact given before 1891 (when the said William John Watson was deprived of the said diploma) to assist him in obtaining an appointment he was then proposing to apply for. In the year 1903 or in the year 1905 (the evidence was not clear as to which date) the said William John Watson instructed his printer to destroy the remaining stock of these pamphlets, and the bulk of them were then destroyed, but one parcel was not destroyed, and some of these were recently distributed.
>
> The said William John Watson stated that these copies were accidentally discovered, and that they were distributed inadvertently, and that the remainder have since been destroyed. He undertook in future not to issue the same or any other similar pamphlet, and to discontinue all advertisements.

The complainants were the British Dental Association. Mr. Watson was represented by Mr. A. C. Hayes, his solicitor.

Mr. **HAYES** made a statement on behalf of his client. He explained that the Edinburgh diploma was taken away because he exhibited a show case with teeth. He hoped that the Council would accept the statement of Mr. Watson with regard to the advertisements.

The Council having deliberated *in camerâ*, the **PRESIDENT** announced its decision as follows: Mr. Watson, the Council have given careful consideration to the report of the Dental Committee and have come to the conclusion to defer further consideration of your case until the next session of the Council in November, when you will be required to be present and present satisfactory evidence as to your conduct in the interval, with particular reference to your undertaking to discontinue the use of all advertisements.

The Council then adjourned.

FRIDAY, MAY 29TH.

The Council resumed its sittings at its offices at 299, Oxford-street, W. Dr. **DONALD MACALISTER**, the President, was in the chair.

The Catford Case.

The Council resumed the consideration of a case adjourned from Nov. 29th, 1907, concerning John Papa Nicolas, registered as of 87, Dowanhill-road, Catford, S.E., M.R.C.S. Eng., L.R.C.P. Lond. 1904, who had been summoned to appear before the Council on the following charge:—

> That you have systematically canvassed in Catford for patients by personal visits to patients of Mr. Thomas William Atkinson and to others, both while you were in the employment of the said Thomas William Atkinson and subsequently, and that in the course of such canvass you disparaged the qualifications and skill of the said Thomas William Atkinson and extolled your own; and that in relation thereto you have been guilty of infamous conduct in a professional respect.

After the case had been under consideration for a day in November the Council postponed further hearing of it in accordance with an intervention of the King's Bench Division.

The complainants were the London and Counties Medical Protection Society. They were represented by counsel, Mr. Neilson, who was accompanied by Dr. Hugh Woods, the secretary to the society.

Mr. John Papa Nicolas attended and was accompanied by Mr. H. J. Randolph Hemming, his solicitor.

At the November proceedings the opening statement of the complainants was made and Mr. Thomas William Atkinson was examined and cross-examined.

Mr. HEMMING at the outset raised an objection to the competency of the Council to hold the inquiry. For 50 years its jurisdiction had been exercised. However, he contended that the jurisdiction was *ultra vires*. The object of the Medical Act was stated in the preamble to be to enable persons to distinguish between qualified and unqualified practitioners. The Council only registered the qualification. It was clear that the Act was not passed in order to give any new form of jurisdiction. The Council had to keep the Medical Register, to deal with the registration of dentists, and with the education of practitioners and the compilation of the Pharmacopœia. The language of the statute should not be construed so as to erect a new tribunal with powers far in excess of those exercised by magistrates. He therefore respectfully urged that the Council had no jurisdiction conferred upon it under Section 29 of the Medical Act, 1858, to try Mr. Nicolas for infamous conduct or to deprive him of his qualifications and status as a medical practitioner.

Mr. LUSHINGTON (the legal assessor): This Council entertains no doubt whatever in the matter in this case. We have received the objection and put it on the file.

Mr. HEMMING proceeded to raise another objection. He had to contend that the proceedings were irregular and void in consequence of a rule of the Council not having been carried out, and in consequence of the accused practitioner not having been heard in the preliminary inquiry as he ought to be heard.

Mr. LUSHINGTON: We cannot receive that objection any further.

Mr. HEMMING went on to submit that his client was entitled to put his objection before his judges, and although it might not satisfy the legal assessor, yet it might enable the members of the Council to perform their duty.

Mr. LUSHINGTON: You may hand in the paper. No court or tribunal or body with judicial functions ever entertains the question judicially whether it is acting so as to prejudice itself or not. It cannot be a judge of that question. We will receive the objection. We will not have it argued and we will not have it read.

Mr. HEMMING: I am not asking the court whether it has been guilty of prejudice and bias. Owing to what has occurred my client has not had an opportunity of putting his case before the Council which he ought to have had by the Council's own rules. I take it something has been done in defiance of the Council's own rules and it has seriously prejudiced the defence of the accused practitioner who ought to have been heard.

Mr. LUSHINGTON: There I differ from you. That ought not to be heard.

He went on to point out that there was an overruling power for the Council constituted by the law of the land. He asked Mr. Hemming to hand in his objection and proceed to the next point.

Mr. HEMMING (continuing) said that it was his duty to object to the President presiding over the inquiry on the ground that he had presided over the Penal Cases Committee and there he might be assumed to have come to a conclusion with regard to the accused practitioner. This objection became the more evident on the score that Mr. Nicolas should have had an opportunity of placing his case before the Penal Cases Committee. It would follow, he thought, that the President had come to the conclusion that the evidence which had been placed before him was trustworthy and credible enough to bring the accused practitioner before the Council. This, he argued, disqualified the President from acting as a judge in the case against the practitioner. His client believed that he had a substantial complaint against the earlier conduct of these proceedings with regard to many points and he did not wish to have to appeal to Cæsar on it. Mr. Nicolas had not had the opportunity of repelling the attacks on his character which were promulgated behind his back, and on this ground the objection must be pressed with great anxiety and earnestness. It had been suggested to him that it was indiscreet to urge such reasons, and that it might prejudice his client's case. He refused to believe that any objection raised on proper grounds before English gentlemen would prejudice his client. He protested against the President presiding at the inquiry.

Mr. LUSHINGTON: There is nothing whatever in that objection and I shall advise the Council to that effect. I shall advise the President to continue sitting.

Mr. HEMMING: On the same ground I have got an objection to any member of the Penal Cases Committee sitting on the case.

Mr. LUSHINGTON also overruled this objection.

Mr. HEMMING further pointed out that by the rules of the Council no complaint should be considered by the Penal Cases Committee until a statutory declaration as to the facts of the case had been supplied by the complainant. He did not think the legal assessor would say that the complainant had furnished any such declaration. The complainant was the London and Counties Medical Protection Society. There was no statutory declaration and there could not be a statutory declaration by the London and Counties Medical Protection Society. There was a statutory declaration by Mr. Atkinson, and he ought to be the complainant. It did not answer the Council's rule that the complaint should be put forward by somebody else. Mr. Atkinson had made a declaration as to hearsay. Therefore, he contended, the proceedings could not be commenced before the Council until they had some responsible complainant.

Mr. LUSHINGTON: I understand that your point is that there is no statutory declaration as to the matter submitted by the complainant.

Mr. HEMMING: Yes.

Mr. LUSHINGTON: I overrule that at once because there are 30. He pointed out that the Council would try the case not only on the statutory declarations but on evidence to be submitted. He further asked Mr. Hemming whether, if his client had an absolute answer, it was worth while to claim any technical points.

Mr. HEMMING said that he understood he was not to be allowed to cross-examine Mr. Atkinson on certain points because legal proceedings were being taken in the King's Bench Division.

Mr. LUSHINGTON replied that Mr. Hemming's client having started an action for libel founded on two particular letters it became his duty to put an innuendo on these letters and to prove it. His ruling had been that Mr. Atkinson should not be cross-examined so as to furnish it. Mr. Atkinson had been examined, cross-examined, and re-examined in November. The present was not the time for raising the point but he would see that no improper question was put to Mr. Hemming's witnesses.

Mr. HEMMING asked that he might be allowed to continue his cross examination of Mr. Atkinson.

Mr. LUSHINGTON: That application is refused.

Mr. HEMMING proceeded to submit further objections. He claimed that the charge ought to be sufficiently clear to enable him to deal with it. He believed that the Council never informed an accused practitioner on what point a decision turned. The legal assessor had said that there was a court which could revise the proceedings of the Council. Surely there ought to be material to take before that court in order that the proceedings might be revised. In the charge the accused practitioner was charged with canvassing "by personal visits to patients of Mr. Thomas William Atkinson and to others." He would emphasise the words "and to others." If these words went before the King's Bench his client's representatives could not satisfy that tribunal that they did not form a part of the judgment. He therefore asked that these words should be amended as an indictment would be, before a judge in any court. He desired that the words "and to others" should be struck out.

Mr. LUSHINGTON replied that after what Dr. Woods, who had conducted the case in November, had said, Mr. Hemming might take it that no evidence would be tendered on that point; and further, that Mr. Nicolas was entitled to an acquittal so far as the charge that he had systematically canvassed in Catford for patients by personal visits to persons other than patients of Mr. Atkinson, was concerned. Mr. Hemming need not trouble himself further about that.

Mrs. MURPHY, now of Southampton but formerly resident in the Catford district, the wife of a builder, was then examined as a witness. She stated that she had been a patient of Mr. Atkinson and had met Mr. Nicolas, his assistant. She alleged that in 1907 Mr. Nicolas had called on her and told her that he had a *medical practice and would* be pleased to attend her.

Cross examined by Mr. Hemming, she denied that Mr. Nicholas came to discuss the price of a red lamp.

Mrs. REDNALL, a patient of Mr. Atkinson, alleged that Mr. Nicolas had stated to her that he was going to set up on his own. She further stated that Mr. Nicolas said: "We young doctors know all the new ideas coming from the hospital. The old doctors know nothing."

Miss E. ROSS, a professional nurse residing in Catford, was another witness. She had nursed Mr. Atkinson's cases and asserted that Mr. Nicolas had criticised and changed treatment prescribed by Mr. Atkinson.

Cross-examined, she admitted that perhaps half her cases were also those of Mr. Atkinson.

The Council postponed the further hearing of the case until the following day and then adjourned.

SATURDAY, MAY 30TH.

The Council resumed its sittings to-day. Dr. DONALD MACALISTER, the President, was again in the chair.

The Catford Case.

The hearing of evidence in connexion with the charge brought against Mr. John Papa Nicolas was resumed. Witnesses were heard in support of the charge.

Mrs. EDNY, Catford, alleged that Mr. Nicolas told her that his fees were less than *those* of Mr. *Atkinson.*

Mrs. SUSAN HART declared that Mr. Nicolas had told her Mr. Atkinson "was no good for *children*" and that he was one of the old school.

Dr. HEMMANS, *Lewisham Park*, was another witness. He knew Mr. Nicolas. On one occasion Mr. Nicolas had said to him that Mr. Atkinson was not likely to have a partnership for many years.

Cross-examined by Mr. HEMMING witness admitted that at *one* time he was *friendly* with *Mr. Nicolas. He* had a high opinion of Mr. Nicolas's professional *skill.*

Mr. G. LAWRENCE, *who stated that* he was a Member of the Royal College of Surgeons, was another witness. He said that he had been a partner of Mr. Atkinson since July, 1907. He had accompanied the Commissioner for Oaths when the statutory *declarations* in connexion *with the charge* were signed. The declaration in each case had been read over *to* the person signing it. It was deliberately read and in his opinion the people who signed understood what *they* were signing.

Cross-examined by Mr. HEMMING *he admitted that a libel* action was pending against him which was intimately connected with the matter *before the Council. He admitted* that the declarations were signed in the evening. Although 12 of them bore the same date *he denied that* undue haste had taken place or that the contents had been hurried over to the declarants before they signed them. He had asked patients of his and of Mr. Atkinson for evidence in regard to the case under consideration.

Mr. POUTER, Commissioner for Oaths, who was present at the signing of the statutory declarations, stated that the signatures had been obtained in the proper and *regular* way.

Several witnesses made statements in support of the charge, and they were minutely *cross-examined* by Mr. HEMMING *as to* the dates of the incidents which they alleged and as to points affecting the consist*ency* and credibility of their evidence.

Mrs. WICKS, one witness who had lost a baby, stated that Mr. Nicolas had told her that if she had brought it to him he could have saved it. She also alleged that he said that Mr. Atkinson had lost babies but he had not lost one.

Cross-examined by Mr. HEMMING she admitted that no third person was present when the alleged statement was made to her.

Mr. NEILSON said that he had called 13 witnesses in support of the charge, and he had 24 in addition to those whom he could call, but he declined to do so in the interests of all concerned. He therefore proposed to close his case subject to this. In November Dr. Woods, who was then in charge of the case, pledged himself to go into the witness-box. He could not say that Dr. Woods could give any relevant evidence on the matters at issue. Having given that pledge he felt sure comment *would* be made if Dr. *Woods did* not go into the witness-box.

Dr. HUGH WOODS entered the *witness-box* but was asked no questions by Mr. Neilson.

In answer to Mr. HEMMING he admitted that he had been to Catford in connexion with the case. He had gone down *to assure himself of the accuracy of some statutory declara*tions on which doubt had been cast, but he strongly denied that he had tried to influence witnesses. He had done nothing improper.

This closed the case in support of the charge.

Mr. HEMMING then opened the case for the defence. He submitted that no case had been made out as to there having been "*systematic canvassing.*"

Mr. LUSHINGTON ruled that there was a *primâ facie* case to go to the Council on the word "systematically."

Mr. HEMMING: I object to the charge because it is not in accordance with the rules of the Council.

Mr. LUSHINGTON: That also is overruled.

Mr. HEMMING: Even if the charge were proved I submit that it would not amount to *infamous conduct in a pro*fessional respect. The General Medical Council had defined the offences which came under the heading of canvassing and advertisement. What was not included in that definition must be excluded from it. The evidence, so far as it was trustworthy, could not amount to evidence *of* infamous conduct in a professional respect under the Medical Act. In view of the character of the witnesses and the hostility which they had shown there was no case whatever for him to answer with regard to infamous conduct in a professional respect. Here was a young practitioner who claimed to be entitled to practise where he was practising. He was opposed by an elderly gentleman. The Council had seen the character of the witnesses and seen how *easy it* was for an innocent expression to be twisted into something dangerous. He submitted again that this was not an instance where there was any case to go forward with.

Mr. LUSHINGTON said that he would advise the Council differently. The document which Mr. Hemming had just been alluding to was not law. It was a warning. It was for the Council to say upon the facts of each case as laid before them whether the conduct disclosed was or was not infamous conduct in a professional respect, quite apart from the question whether it came within the warning notice or not. The matter had been very well put in the Court of Appeal by the late Lord Esher. He had said: "If it is shown that a medical man in the pursuit of his profession has done something in regard to it which will be reasonably regarded as disgraceful or dishonourable by his professional brethren of good repute then it is open to the General Medical Council to say that he has been guilty of infamous conduct in a professional respect."

Mr. HEMMING then called evidence in defence of Mr. Nicolas.

Mr. BELLMAN, a druggist, stated that Mr. Lawrence had called on him and told him that Mr. Nicolas was trying to get his patients away.

Mr. HEMMING went into the witness-box and was granted leave to be examined by his clerk who was a qualified solicitor. He stated that in January, 1906, Mr. Nicolas had attended his wife. At that time he had asked Mr. Atkinson *as to* Mr. Nicolas's ability. Mr. Atkinson then could not say *anything too* extravagant in favour of Mr. Nicoles. He asked Mr. Nicolas what he thought of Mr. Atkinson and he spoke very handsomely of him. It had been stated that Mr. Atkinson's lowest confinement charge was a guinea. *He* had had an opportunity given him to examine Mr. Atkinson's books. The lowest midwifery *charges in them were 10s., 12s.*, and 15*s*.

Briefly cross-examined by Mr. NEILSON he said that it was alleged that Mr. Nicolas systematically canvassed Mr. Atkinson's patients. When he gave Mr. Nicolas an opportunity of disparaging Mr. Atkinson he praised him.

Mr. NEILSON: The amount of your evidence, I suppose, is that he did not canvass you.

Mr. HEMMING: He did not canvass me.

Mr. JOHN PAPA NICOLAS, against whom *the* charge was made, went into the witness-box. He stated his qualifications.

At this point his examination was postponed.

The Council adjourned.

MONDAY, JUNE 1ST.

The Council resumed its *sittings to-day, Dr.* DONALD MACALISTER, the *President*, being in the chair.

The Catford Case.

The Council proceeded with the further hearing of evidence in connexion with the charge against Mr. John Papa Nicolas, a report of which will be given in a later issue.

TUESDAY, JUNE 2ND.

The Council resumed its sittings to-day, Dr DONALD MACALISTER being in the chair.

The Business of the Council.

Dr. NORMAN MOORE at the outset of the proceedings said that Dr. Langley Browne, in view of the time that would necessarily be occupied with other business, had consented to withdraw his motion to the effect that "representations be made to the Privy Council that it is expedient to confer on the registered practitioners resident in England and Wales the power of returning an additional member to the General Medical Council." In view of the fact that some time would be required to discuss the matter adequately the motion would be postponed until the next session of the Council. There was a matter of urgency to which he had to allude. It referred to some questions with regard to the property of the Council. He suggested that the Office Site Committee, consisting of the President, the treasurers, and the chairman of the Business Committee, should be authorised to decide, when consulted by the solicitor, as to certain matters of urgency in regard to the letting of part of the Council's property.

A motion giving effect to this suggestion was adopted by the Council without discussion.

The Examination Committee's Reports.

On the motion of Dr. MCVAIL two reports by the Examination committee were formally received and entered on the minutes. The first refers to the final examinations held by the Apothecaries' Hall, Dublin, in January and April, 1908. It runs:—

The assistant examiners report, as regards the examination of Jan. 29th. 1908, that they "were satisfied with the manner in which this examination was conducted, and the standard of proficiency in medicine, surgery, and midwifery required from the candidates was sufficient and searching in every detail." Concerning the examination held on April 29th, 30th, and May 1st, 2nd, 1908, the assistant examiners "were satisfied with the manner in which the examination was conducted, and they considered that the standard of proficiency in medicine, surgery, midwifery, and ophthalmology was sufficient and searching in every detail." The assistant examiners supply copies of the written questions and give the results of the examination in each subject, with passes and rejections, but otherwise give no detailed information.

The second report referred to the analysis of the returns as to examinations for the services received since the last session of the Council.

No discussion took place on either.

Report of the Pharmacopœia Committee.

Dr. NORMAN MOORE moved that the report of the Pharmacopœia Committee should be received and entered on the minutes. The report was in the following terms:—

From Nov. 18th, 1907, to May 18th, 1908, the number of copies of the British Pharmacopœia (1898) sold by the publishers was 588. The total number of copies sold in the year beginning May 25th, 1907, was 1095. Up to the present time 39,769 copies of the Pharmacopœia and 4470 copies of the Indian and Colonial Addendum have been sold. A further impression of the Pharmacopœia having been ordered the stock on hand now consists of 3261 copies, together with 1894 copies of the Addendum. The Committee of Reference in Pharmacy have presented two reports, one containing suggestions for the revision of certain monographs of the Pharmacopœia (1898), the other containing the results of an analysis of 48,000 prescriptions actually dispensed by pharmacists in England, Scotland, and Ireland during the last year or so. Information has also been furnished by wholesale druggists and manufacturers regarding the unofficial drugs and preparations for which there is a large demand and regarding the official articles for which the demand has become very small. The details thus supplied by the Committee of Reference at the cost of much labour will be of material assistance to the committee in deciding on the inclusion in or omission from the next Pharmacopœia of particular articles.

In order that they might ascertain the views of the medical authorities regarding such inclusions or omissions, inquiries have been addressed by the President to the several licensing bodies in the United Kingdom. In response to these inquiries the Committee have received a large number of careful reports, prepared by special committees appointed by the bodies and sanctioned by their authority. The suggestions for the improvement of the Pharmacopœia therein contained will now be analysed and tabulated and will be considered by the committee in due course. The thanks of the committee and of the Council are due to all those who in this connexion have willingly assisted towards the production of a Pharmacopœia which will reflect faithfully the present state of medical and pharmaceutical science and practice.

The attention of the committee having been called to a recent publication which appeared to them to infringe the Council's statutory rights in the Pharmacopœia the opinion of counsel was taken on the subject. The opinion confirmed the view taken by the committee and suggested the proper steps to be taken for the Council's protection. Acting on the legal advice thus obtained representations were made to the publishers, with the result that the present issue of the publication has been stopped. Guarantees have also been furnished that future issues shall not be open to the like objection. In view of the legal sanction which the Pharmacopœia possesses, not only in the United Kingdom but in other parts of the empire, it is important that its official authority should be safeguarded, and that the statutory property in its text, which the Legislature has vested in the Council, should not be impaired by the publication and sale of unauthorised transcripts.

Sir JOHN MOORE seconded.

The motion was agreed to without discussion.

The Assistant Examiners to the Apothecaries' Hall of Ireland.

The Council resumed consideration of the report by the Executive Committee in regard to the duties of assistant examiners to the Apothecaries' Hall of Ireland. The Executive Committee submitted the following recommendations to the Council:—

1. That the examiners appointed by the Council to assist at the qualifying examinations held by the Apothecaries' Hall, Dublin, be instructed to conduct the surgical portion of these examinations; and, in addition, to supervise the medical and obstetrical portions, with the object of securing that at each qualifying examination the required standard of proficiency is maintained.
2. That the examiners be instructed to report fully, for the information of the Council, as to the methods and standards actually adopted at each qualifying examination, and as to the steps they have taken in fulfilment of the duties imposed upon them by Section 5 of the Medical Act, 1886.

The PRESIDENT moved that the recommendations of the Executive Committee should be adopted.

Dr. NORMAN MOORE seconded.

Dr. ADYE-CURRAN asked that the two recommendations should be put separately. One of them he considered legal but the other was not.

Sir THOMAS MYLES moved to amend the first recommendation so that it should read as follows:—

That the examiners appointed by the Council to assist at the qualifying examinations held by the Society of Apothecaries of London and by the Apothecaries' Hall, Dublin, &c.

He would not take up the time of the Council by speaking on his amendment.

Dr. SAUNDBY seconded the amendment.

Sir HUGH BEEVOR commented on the fact that no reasons had been given for the amendment and he knew no reason why there should be a change in the custom of the Council. The custom of the Council for many years had not been that there should be a report on the Apothecaries' Society of London. He did not see why there should be a departure from that custom. There was a very valid reason for a long time why the Apothecaries' Hall of Ireland should be examined. That was a matter of history long before his time, and the President was cognisant why this course had been followed in Dublin and not in the case of the Apothecaries' Society of London. He repeated that no change ought to be made.

Sir C. NIXON suggested that the discussion on this subject should be postponed until they had finished the penal business. He would like to say a few words in connexion with it.

Dr. ADYE-CURRAN said that he did not think that one side of the matter should be discussed and then the consideration postponed indefinitely. That might lead to fixing one side of the case only in the minds of members of the Council.

The discussion of the matter was then postponed.

The Dental Education and Examination Committee.

Mr. TOMES moved that the report of the Dental Education and Examination Committee should be received and adopted. The report dealt mainly with the refusal of registration as a foreign dentist to a Russian subject. It also stated that an inquiry as to reciprocity had been received from the Dental Council of Canada, which forwarded particulars of the requirements for its diploma. It appeared, however, that this was so far a voluntary combination and it did not appear that it had obtained any legislative recognition. Until this was obtained it would be impossible for the General Medical Council to take cognisance of its diplomas.

Mr. MORRIS seconded.

The motion was agreed to.

Unqualified Practice Prevention Committee.

Dr. LANGLEY BROWNE moved that the report of the Unqualified Practice Prevention Committee should be received and adopted. The report went on to state that through the good offices of the Lord President of the Council information desired with regard to unqualified practice abroad had been furnished. The report proceeded:—

Most countries make some attempt to regulate the existence of medical practice, to check unlicensed practitioners, and to confine the exercise of the healing art to members of their own nationality, or, at any rate, to those who have passed some medical examination in the country. These regulations vary very considerably, and seem to depend upon two main considerations: I. The more enlightened countries consider the question from the point of view of protecting the public from the dangers of unqualified practice by regulating the sale of poisons, dangerous drugs, &c., and put in the background the necessity of the practitioner being qualified according to their own colleges or universities. II. Other countries seem to regard it more as a means of exacting a fee for the privilege of practising, and to attach more importance to registration or licensing than to the qualification of the practitioner.

Germany alone leaves the practice of the healing art prefectly free so long as the practitioner does not assume certain titles and does not seek recognition by the municipal or police authorities. Should he desire to be recognised as a medical man or even as a veterinary surgeon he must obtain an "approbation," which is equivalent to a licence to practise and to assume such title to designate his specialty as he pleases. Italy is distinguished by the grant of a general permit to the properly qualified foreign practitioner to attend to his own countrymen, but this is a concession to the foreign population rather than to the medical profession, and practice among Italians is permitted only on obtaining an Italian diploma. With regard to the colonies, returns have been received from the Dominion of Canada and her ten provinces and from the three districts of South Africa. In Canada the disposition has been to acknowledge all good foreign degrees and especially to recognise the English register, but it is evident that with the growth of Canadian schools of medicine there is an increasing tendency to require a local examination, and as increased facilities for medical study extend westward this tendency is likely to increase.

At the present time the ambition of the Canadian practitioner is to come to England and obtain an English diploma in addition to his Colonial degree, but that is because so far the Universities of Canada do not seem to have been fully recognised; for instance, they are not named among the other colonial schools whose diplomas are recognised in the schedule to the Act in South Africa. With regard to the general question of penalty the recognised offences are as follow: Unqualified practice; unregistered or unlicensed practice; the illegal assumption of titles; the administration of poisons or other potent drugs; and want of proper skill in either qualified or unqualified practitioners. The conditions which prevail in Egypt are somewhat exceptional and special permission is given to the barbers to continue their practices, which are historical, and which include the rite of circumcision, bleeding, cupping, leeching, and vaccination.

The Egyptian Government appear to recognise any genuine diploma, and there seems reason to believe that great notice is taken of the administration of drugs and poisons; there is also a strong medico-legal department in Egypt which deals with unqualified administration of drugs, &c. It is not possible to attach much importance to the law in South America, as it would appear that, with the exception of Brazil, the question is regarded by the smaller States as rather fiscal than for public protection, and in such unsettled countries as Uruguay and Panama the methods adopted can hardly be seriously considered. The recognition of charity and religion as a cloak for unqualified practice prevails in Russia, and although no returns are here given it also exists among the protectorates of the northern littoral of Africa west of Egypt. Several countries appear from the details given to be in favour of reciprocity in admitting degrees of equivalent value, but no general consensus can be discovered. It may also be remarked that the most exacting country is Switzerland, which requires a complete examination from all who seek to practise even among foreign visitors.

The returns received from the Foreign Office and from the Colonial Office comprise the reports of 34 countries and six of our own colonies. Other returns have been received during the present week. Of these, Persia, Morocco, Zanzibar, and Abyssinia possess no regulations for medical practice; nor does the Empire of India. The conditions prevailing in the German Empire are exceptional. It would appear that so long as the would-be practitioner does not assume any title—e.g., physician, surgeon, oculist, dentist, obstetrician, &c.,—he may practise as much as he pleases. Some of the component States of the German Empire have made local regulations, but while returns are shown from Baden, Bavaria, Hesse, and Würtemburg, the conditions prevailing generally are set out in the despatch from the Foreign Office at Berlin.

The committees propose to continue their investigations and to report further at the next session of the Council.

Sir JOHN MOORE seconded.

The motion was agreed to without discussion.

The Students' Registration Committee's Report.

On the motion of Sir HUGH BEEVOR the report of the Students' Registration Committee was received and adopted.

Removals from the Register.

On the motion of Dr. LATIMER, seconded by Dr. SAUNDBY, a motion was agreed to that the Executive Committee should be requested to consider the report on the course to be followed in the case of practitioners who applied to be removed from the Medical or Dentists Register.

The Report of the Finance Committee.

Mr. TOMES moved the adoption of the report of the Finance Committee. This report showed that the income of the General and Branch Councils for the year ending Dec. 31st, 1907, was £8465 17*s.* 11*d.*, and the expenditure during the year was £7370 17*s.* 9*d.*, and consequently there was a surplus of £1095 0*s.* 2*d.* The report went on to say that this was very satisfactory indeed, bearing in mind that £235 6*s.* 11*d.* and £415 17*s.* 2*d.* respectively were written off the cost of office improvements and the enlargement of the Council chamber, and so appeared under the heading of expenditure. The receipts from fees were almost identical with those in 1906, for the small difference of £30 1*s.* 6*d.* less received by the branches was compensated by £30 more received by the General Council for colonial and foreign fees. The English Branch showed a large decrease of £265 under this head, but that was nearly wiped out by £195 13*s.* 6*d.* more received by the Scottish Branch, and £39 5*s.* more received by the Irish Branch.

Dr. LITTLE seconded the adoption of the report, which was agreed to without debate.

Appointment of Committees.

The following committees, among others, were appointed:—

The Examination Committee, consisting of Dr. Pye-Smith, Mr. Young, and Dr. Caton (nominated by the English Branch Council), Sir Thomas Fraser, Dr. Finlay, and Dr. McVail (nominated by the Scottish Branch Council), Dr. Kidd, Sir John Moore, and Sir Charles Ball (nominated by the Irish Branch Council).

The Education Committee, consisting of Dr. Norman Moore, Sir George Philipson, and Sir John Williams (nominated by the English Branch Council), Dr. Mackay, Sir John Tuke, and Dr. Lindsay Steven (nominated by the Scottish Branch Council), Sir Thomas Myles, Sir C. Nixon, and Dr. Little (nominated by the Irish Branch Council).

The Public Health Committee, consisting of Dr. Cocking, Mr. Power, and Dr. Langley Browne (nominated by the English Branch Council), Dr. Norman Walker, Dr. Lindsay Steven, and Dr. McVail (nominated by the Scottish Branch Council), Sir John Moore, Dr. Kidd, and Dr. Adye-Curran (nominated by the Irish Branch Council).

The Pharmacopœia Committee, consisting of the President, Dr. Norman Moore, Dr. Barrs, Sir John Moore, Sir G. Philipson, Sir Thomas Fraser, Dr. Little, Dr. Caton, and Dr. McVail.

It was also announced that the Executive Committee and the Penal Cases Committee had been re-elected without any change of *personnel.*

WEDNESDAY, JUNE 3RD.

The Council concluded its sittings this evening, and late in the day the decision in the Catford case was given against Mr. John Papa Nicolas, whose name was ordered to be erased from the Register for unprofessional conduct. An application was made by Mr. Hemming, Mr. Nicolas's solicitor, that the erasure should be postponed for a month in order that a writ of *certiorari* might be applied for.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between May 22nd and May 29th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscriber of Two Guineas.

Russell Coombe, Exeter.

Subscribers of Two Pounds One Shilling.

Bolton Medical Society, per Douglas Gray, the amount being made up as follows:—

One Guinea from—

H. Jefferies, Bolton.

Five Shillings from—

F. Dowling, Bolton.
Douglas Gray, Bolton.
T. O'Neill, Bolton.
D. S. Sutherland, Bolton.

Subscribers of One Guinea.

H. W. Armit, Wembley.
H. E. Belcher, Nottingham.
Edward E. Brierley, Cardiff.
R. Cameron, Cardiff.
P. T. Duncan, Croydon.
A. B. Fry, Capt., I.M.S., India.
Walter Kirkby, Maesteg, Glam.
J. W. Pugh, Brighton.
Charles Sangster, London.
H. T. Shaw, Liverpool.
J. H. Teacher, Glasgow.
J. F. Twist, Bridgend.
Ernest E. Warr, London.

Subscriber of One Pound.

Richard Jones, Blaenau Festiniog, N. Wales.

Subscribers of Half-a-Guinea.

James Anderson, Seaton Delaval, R.S.O.
John R. Rolston, Plymouth.
William Wyllys, Great Yarmouth.
W. Courtenay Milward, Cardiff.
Levenshulme and District Medical Society, per E. Maynard Ashcroft, Manchester.

Subscriber of Ten Shillings.

R. W. Innes Smith, Sheffield.

Subscribers of Five Shillings.

A. F. R. Conder, Cheltenham.
John Mason, Windermere.

Subscriber of Half-a-crown.

Thomas Du B. Whaite, Lieutenant-Colonel R.A.M.C., per L. D. Parsons, honorary secretary, Gibraltar Division, British Medical Association.

in connexion with the charge against Mr. John Papa Nicolas, a report of which will be given in a later issue.

TUESDAY, JUNE 2ND.

The Council resumed its sittings to-day, Dr DONALD MACALISTER being in the chair.

The Business of the Council.

Dr. NORMAN MOORE at the outset of the proceedings said that Dr. Langley Browne, in view of the time that would necessarily be occupied with other business, had consented to withdraw his motion to the effect that "representations be made to the Privy Council that it is expedient to confer on the registered practitioners resident in England and Wales the power of returning an additional member to the General Medical Council." In view of the fact that some time would be required to discuss the matter adequately the motion would be postponed until the next session of the Council. There was a matter of urgency to which he had to allude. It referred to some questions with regard to the property of the Council. He suggested that the Office Site Committee, consisting of the President, the treasurers, and the chairman of the Business Committee, should be authorised to decide, when consulted by the solicitor, as to certain matters of urgency in regard to the letting of part of the Council's property.

A motion giving effect to this suggestion was adopted by the Council without discussion.

The Examination Committee's Reports.

On the motion of Dr. MCVAIL two reports by the Examination committee were formally received and entered on the minutes. The first refers to the final examinations held by the Apothecaries' Hall, Dublin, in January and April, 1908. It runs:—

> The assistant examiners report, as regards the examination of Jan. 29th, 1908, that they "were satisfied with the manner in which this examination was conducted, and the standard of proficiency in medicine, surgery, and midwifery required from the candidates was sufficient and searching in every detail." Concerning the examination held on April 29th, 30th, and May 1st, 2nd, 1908, the assistant examiners "were satisfied with the manner in which the examination was conducted, and they considered that the standard of proficiency in medicine, surgery, midwifery, and ophthalmology was sufficient and searching in every detail." The assistant examiners supply copies of the written questions and give the results of the examination in each subject, with passes and rejections, but otherwise give no detailed information.

The second report referred to the analysis of the returns as to examinations for the services received since the last session of the Council.

No discussion took place on either.

Report of the Pharmacopœia Committee.

Dr. NORMAN MOORE moved that the report of the Pharmacopœia Committee should be received and entered on the minutes. The report was in the following terms:—

> From Nov. 18th, 1907, to May 18th, 1908, the number of copies of the British Pharmacopœia (1898) sold by the publishers was 588. The total number of copies sold in the year beginning May 25th, 1907, was 1095. Up to the present time 39,769 copies of the Pharmacopœia and 4470 copies of the Indian and Colonial Addendum have been sold. A further impression of the Pharmacopœia having been ordered the stock on hand now consists of 3261 copies, together with 1894 copies of the Addendum. The Committee of Reference in Pharmacy have presented two reports, one containing suggestions for the revision of certain monographs of the Pharmacopœia (1898), the other containing the results of an analysis of 48,000 prescriptions actually dispensed by pharmacists in England, Scotland, and Ireland during the last year or so. Information has also been furnished by wholesale druggists and manufacturers regarding the unofficial drugs and preparations for which there is a large demand and regarding the official articles for which the demand has become very small. The details thus supplied by the Committee of Reference at the cost of much labour will be of material assistance to the committee in deciding on the inclusion in or omission from the next Pharmacopœia of particular articles.
>
> In order that they might ascertain the views of the medical authorities regarding such inclusions or omissions, inquiries have been addressed by the President to the several licensing bodies in the United Kingdom. In response to these inquiries the Committee have received a large number of careful reports, prepared by special committees appointed by the bodies and sanctioned by their authority. The suggestions for the improvement of the Pharmacopœia therein contained will now be analysed and tabulated and will be considered by the committee in due course. The thanks of the committee and of the Council are due to all those who in this connexion have willingly assisted towards the production of a Pharmacopœia which will reflect faithfully the present state of medical and pharmaceutical science and practice.
>
> The attention of the committee having been called to a recent publication which appeared to them to infringe the Council's statutory rights in the Pharmacopœia the opinion of counsel was taken on the subject. The opinion confirmed the view taken by the committee and suggested the proper steps to be taken for the Council's protection. Acting on the legal advice thus obtained representations were made to the publishers, with the result that the present issue of the publication has been stopped. Guarantees have also been furnished that future issues shall not be open to the like objection. In view of the legal sanction which the Pharmacopœia possesses, not only in the United Kingdom but in other parts of the empire, it is important that its official authority should be safeguarded, and that the statutory property in its text, which the Legislature has vested in the Council, should not be impaired by the publication and sale of unauthorised transcripts.

Sir JOHN MOORE seconded.

The motion was agreed to without discussion.

The Assistant Examiners to the Apothecaries' Hall of Ireland.

The Council resumed consideration of the report by the Executive Committee in regard to the duties of assistant examiners to the Apothecaries' Hall of Ireland. The Executive Committee submitted the following recommendations to the Council:—

> 1. That the examiners appointed by the Council to assist at the qualifying examinations held by the Apothecaries' Hall, Dublin, be instructed to conduct the surgical portion of these examinations; and, in addition, to supervise the medical and obstetrical portions, with the object of securing that at each qualifying examination the required standard of proficiency is maintained.
> 2. That the examiners be instructed to report fully, for the information of the Council, as to the methods and standards actually adopted at each qualifying examination, and as to the steps they have taken in fulfilment of the duties imposed upon them by Section 5 of the Medical Act, 1886.

The PRESIDENT moved that the recommendations of the Executive Committee should be adopted.

Dr. NORMAN MOORE seconded.

Dr. ADYE-CURRAN asked that the two recommendations should be put separately. One of them he considered legal but the other was not.

Sir THOMAS MYLES moved to amend the first recommendation so that it should read as follows:—

> That the examiners appointed by the Council to assist at the qualifying examinations held by the Society of Apothecaries of London and by the Apothecaries' Hall, Dublin, &c.

He would not take up the time of the Council by speaking on his amendment.

Dr. SAUNDBY seconded the amendment.

Sir HUGH BEEVOR commented on the fact that no reasons had been given for the amendment and he knew no reason why there should be a change in the custom of the Council. The custom of the Council for many years had not been that there should be a report on the Apothecaries' Society of London. He did not see why there should be a departure from that custom. There was a very valid reason for a long time why the Apothecaries' Hall of Ireland should be examined. That was a matter of history long before his time, and the President was cognisant why this course had been followed in Dublin and not in the case of the Apothecaries' Society of London. He repeated that no change ought to be made.

Sir C. NIXON suggested that the discussion on this subject should be postponed until they had finished the penal business. He would like to say a few words in connexion with it.

Dr. ADYE-CURRAN said that he did not think that one side of the matter should be discussed and then the consideration postponed indefinitely. That might lead to fixing one side of the case only in the minds of members of the Council.

The discussion of the matter was then postponed.

The Dental Education and Examination Committee.

Mr. TOMES moved that the report of the Dental Education and Examination Committee should be received and adopted. The report dealt mainly with the refusal of registration as a foreign dentist to a Russian subject. It also stated that an inquiry as to reciprocity had been received from the Dental Council of Canada, which forwarded particulars of the requirements for its diploma. It appeared, however, that this was so far a voluntary combination and it did not appear that it had obtained any legislative recognition. Until this was obtained it would be impossible for the General Medical Council to take cognisance of its diplomas.

Mr. MORRIS seconded.

The motion was agreed to.

Unqualified Practice Prevention Committee.

Dr. LANGLEY BROWNE moved that the report of the Unqualified Practice Prevention Committee should be received and adopted. The report went on to state that through the good offices of the Lord President of the Council information desired with regard to unqualified practice abroad had been furnished. The report proceeded:—

> Most countries make some attempt to regulate the existence of medical practice, to check unlicensed practitioners, and to confine the

exercise of the healing art to members of their own nationality, or, at any rate, to those who have passed some medical examination in the country. These regulations vary very considerably, and seem to depend upon two main considerations: I. The more enlightened countries consider the question from the point of view of protecting the public from the dangers of unqualified practice by regulating the sale of poisons, dangerous drugs, &c., and put in the background the necessity of the practitioner being qualified according to their own colleges or universities. II. Other countries seem to regard it more as a means of exacting a fee for the privilege of practising, and to attach more importance to registration or licensing than to the qualification of the practitioner.

Germany alone leaves the practice of the healing art prefectly free so long as the practitioner does not assume certain titles and does not seek recognition by the municipal or police authorities. Should he desire to be recognised as a medical man or even as a veterinary surgeon he must obtain an "approbation," which is equivalent to a licence to practise and to assume such title to designate his specialty as he pleases. Italy is distinguished by the grant of a general permit to the properly qualified foreign practitioner to attend to his own countrymen, but this is a concession to the foreign population rather than to the medical profession, and practice among Italians is permitted only on obtaining an Italian diploma. With regard to the colonies, returns have been received from the Dominion of Canada and her ten provinces and from the three districts of South Africa. In Canada the disposition has been to acknowledge all good foreign degrees and especially to recognise the English register, but it is evident that with the growth of Canadian schools of medicine there is an increasing tendency to require a local examination, and as increased facilities for medical study extend westward this tendency is likely to increase.

At the present time the ambition of the Canadian practitioner is to come to England and obtain an English diploma in addition to his Colonial degree, but that is because so far the Universities of Canada do not seem to have been fully recognised; for instance, they are not named among the other colonial schools whose diplomas are recognised in the schedule to the Act in South Africa. With regard to the general question of penalty the recognised offences are as follow: Unqualified practice; unregistered or unlicensed practice; the illegal assumption of titles; the administration of poisons or other potent drugs; and want of proper skill in either qualified or unqualified practitioners. The conditions which prevail in Egypt are somewhat exceptional and special permission is given to the barbers to continue their practices, which are historical, and which include the rite of circumcision, bleeding, cupping, leeching, and vaccination.

The Egyptian Government appear to recognise any genuine diploma, and there seems reason to believe that great notice is taken of the administration of drugs and poisons; there is also a strong medico-legal department in Egypt which deals with unqualified administration of drugs, &c. It is not possible to attach much importance to the law in South America, as it would appear that, with the exception of Brazil, the question is regarded by the smaller States as rather fiscal than for public protection, and in such unsettled countries as Uruguay and Panama the methods adopted can hardly be seriously considered. The recognition of charity and religion as a cloak for unqualified practice prevails in Russia, and although no returns are here given it also exists among the protectorates of the northern littoral of Africa west of Egypt. Several countries appear from the details given to be in favour of reciprocity in admitting degrees of equivalent value, but no general consensus can be discovered. It may also be remarked that the most exacting country is Switzerland, which requires a complete examination from all who seek to practise even among foreign visitors.

The returns received from the Foreign Office and from the Colonial Office comprise the reports of 34 countries and six of our own colonies. Other returns have been received during the present week. Of these, Persia, Morocco, Zanzibar, and Abyssinia possess no regulations for medical practice; nor does the Empire of India. The conditions prevailing in the German Empire are exceptional. It would appear that so long as the would-be practitioner does not assume any title—e.g., physician, surgeon, oculist, dentist, obstetrician, &c.,—he may practise as much as he pleases. Some of the component States of the German Empire have made local regulations, but while returns are shown from Baden, Bavaria, Hesse, and Würtemburg, the conditions prevailing generally are set out in the despatch from the Foreign Office at Berlin.

The committee propose to continue their investigations and to report further at the next session of the Council.

Sir JOHN MOORE seconded.

The motion was agreed to without discussion.

The Students' Registration Committee's Report.

On the motion of Sir HUGH BEEVOR the report of the Students' Registration Committee was received and adopted.

Removals from the Register.

On the motion of Dr. LATIMER, seconded by Dr. SAUNDBY, a motion was agreed to that the Executive Committee should be requested to consider the report on the course to be followed in the case of practitioners who applied to be removed from the Medical or Dentists Register.

The Report of the Finance Committee.

Mr. TOMES moved the adoption of the report of the Finance Committee. This report showed that the income of the General and Branch Councils for the year ending Dec. 31st, 1907, was £8465 17*s*. 11*d*., and the expenditure during the year was £7370 17*s*. 9*d*., and consequently there was a surplus of £1095 0*s*. 2*d*. The report went on to say that this was very satisfactory indeed, bearing in mind that £235 6*s*. 11*d*. and £415 17*s*. 2*d*. respectively were written off the cost of office improvements and the enlargement of the Council chamber, and so appeared under the heading of expenditure. The receipts from fees were almost identical with those in 1906, for the small difference of £30 1*s*. 6*d*. less received by the branches was compensated by £30 more received by the General Council for colonial and foreign fees. The English Branch showed a large decrease of £265 under this head, but that was nearly wiped out by £195 13*s*. 6*d*. more received by the Scottish Branch, and £39 5*s*. more received by the Irish Branch.

Dr. LITTLE seconded the adoption of the report, which was agreed to without debate.

Appointment of Committees.

The following committees, among others, were appointed:—

The Examination Committee, consisting of Dr. Pye-Smith, Mr. Young, and Dr. Caton (nominated by the English Branch Council), Sir Thomas Fraser, Dr. Finlay, and Dr. McVail (nominated by the Scottish Branch Council), Dr. Kidd, Sir John Moore, and Sir Charles Ball (nominated by the Irish Branch Council).

The Education Committee, consisting of Dr. Norman Moore, Sir George Philipson, and Sir John Williams (nominated by the English Branch Council), Dr. Mackay, Sir John Tuke, and Dr. Lindsay Steven (nominated by the Scottish Branch Council), Sir Thomas Myles, Sir C. Nixon, and Dr. Little (nominated by the Irish Branch Council).

The Public Health Committee, consisting of Dr. Cocking, Mr. Power, and Dr. Langley Browne (nominated by the English Branch Council), Dr. Norman Walker, Dr. Lindsay Steven, and Dr. McVail (nominated by the Scottish Branch Council), Sir John Moore, Dr. Kidd, and Dr. Adye-Curran (nominated by the Irish Branch Council).

The Pharmacopœia Committee, consisting of the President, Dr. Norman Moore, Dr. Barrs, Sir John Moore, Sir G. Philipson, Sir Thomas Fraser, Dr. Little, Dr. Caton, and Dr. McVail.

It was also announced that the Executive Committee and the Penal Cases Committee had been re-elected without any change of *personnel*.

WEDNESDAY, JUNE 3RD.

The Council concluded its sittings this evening, and late in the day the decision in the Catford case was given against Mr. John Papa Nicolas, whose name was ordered to be erased from the Register for unprofessional conduct. An application was made by Mr. Hemming, Mr. Nicolas's solicitor, that the erasure should be postponed for a month in order that a writ of *certiorari* might be applied for.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between May 22nd and May 29th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscriber of Two Guineas.

Russell Coombe, Exeter.

Subscribers of Two Pounds One Shilling.

Bolton Medical Society, per Douglas Gray, the amount being made up as follows:—

One Guinea from—

H. Jefferies, Bolton.

Five Shillings from—

F. Dowling, Bolton.
Douglas Gray, Bolton.
T. O'Neill, Bolton.
D. S. Sutherland, Bolton.

Subscribers of One Guinea.

H. W. Armit, Wembley.
H. E. Belcher, Nottingham.
Edward E. Brierley, Cardiff.
R. Cameron, Cardiff.
P. T. Duncan, Croydon.
A. B. Fry, Capt., I.M.S., India.
Walter Kirkby, Maesteg, Glam.
J. W. Pugh, Brighton.
Charles Sangster, London.
H. T. Shaw, Liverpool.
J. H. Teacher, Glasgow.
J. F. Twist, Bridgend.
Ernest E. Warr, London.

Subscriber of One Pound.

Richard Jones, Blaenau Festiniog, N. Wales.

Subscribers of Half-a-Guinea.

James Anderson, Seaton Delaval, R.S.O.
John R. Rolston, Plymouth.
William Wyllys, Great Yarmouth.
W. Courtenay Mi[illegible]ard, Cardiff.
Levenshulme and District Medical Society, per E. Maynard Ashcroft, Manchester.

Subscriber of Ten Shillings.

R. W. Innes Smith, Sheffield.

Subscribers of Five Shillings.

A. F. R. Conder, Cheltenham.
John Mason, Windermere.

Subscriber of Half-a-crown.

Thomas Du B. Whaite, Lieutenant-Colonel R.A.M.C., per L. D. Parsons, honorary secretary, Gibraltar Division, British Medical Association.

THE LANCET.

LONDON: SATURDAY, JUNE 6, 1908.

The French Hospital and the "Entente."

FEW conditions could more aggravate the pains and perils of sickness than that they should be suffered among strangers in a foreign land; and few charities can have greater claims upon the benevolent than those which seek to surround such sufferers, as completely as may be possible, with the accents of the tongue which takes them back to the days of their childhood and with the innumerable *petits soins* which may recall memories of home. The hospitals which have been established in London for the treatment of the members of foreign nationalities have always seemed to us to be eminently worthy of the support, not only of the members of those nationalities who may be settled amongst us, but also of our own people; and the PRESIDENT of the French Republic could have done nothing more worthy of his high station, or of the great nation which he represents, than to withdraw himself for a time from the honours and festivities with which he has been received and to devote the leisure thus obtained to a visit to the French Hospital in Shaftesbury-avenue and to the practical display of his sympathies with the humblest of the population under his rule. It is pleasant to read in the reports of his visit that during its course "laughter sometimes rippled through the wards," and there can be little doubt that Sister-Superior CÉLINE was justified in the expectation which she expressed—that his coming would be "better than medicine" for many of those under her care. The patients, moreover, would be rejoiced at the official recognition of her long and faithful services by the Cross of Merit with which the PRESIDENT personally decorated her, as well as by the decorations conferred on some of the officials of the institution, and there can be no doubt that the day and the event will be long remembered as things of mark in the history of the institution. President LOUBET, when he was in London five years ago, paid a similar visit; but the steady subsequent growth of friendship between the two nations has added greatly to the importance of the Presidential action in English eyes; and we cannot but hope that it will also add to the substantial recognition of the French Hospital as a charity eminently worthy of our good wishes and of our efforts to give effect to them. The histories of medicine and of surgery owe much to France, and we can make no more graceful recognition of our debt to her than by provision that those of her children who are sick and suffering in our midst shall be surrounded with such care as may best promote their recovery.

The French Hospital, like many other excellent institutions, has grown to its present estate from small beginnings. It was in the first instance established as a dispensary by the late Dr. VINTRAS, a highly respected member of the French colony in London; and in 1867, after six years of eminently useful work, its doors were opened as a hospital with a modest equipment of 16 beds, increased in the following year to double that number by the absorption of an adjoining house. The demands upon its space continuing to increase, the French colony in London set themselves energetically to work to establish an institution worthy of their nationality, with the result that the present hospital was built and was opened in 1890 by the Ambassador, M. WADDINGTON. Since then two adjacent houses have been secured, one as a home for the nurses and the other as an infirmary for cases of pulmonary tuberculosis, so as to keep them from mixing with other classes of patients; and the total number of beds now amounts to 82. The management justly prides itself upon the economy of management in respect of which the French may fairly claim to offer an example to all other nations, and it is announced that the absolute cost of food for the patients amounts only to about one shilling (1fr. 25c.) per head per day. Nor is the economy obtained by any sacrifice of things still more essential, for the management quotes from the report made to King Edward VII.'s Fund by the visitors, Sir TREVOR LAWRENCE and the late Mr. MACNAMARA, a passage in which they "desire to express their admiration of the organisation, and of the order which reigns throughout." They further declared the hospital to be a model of what an institution of the kind ought to be and to leave nothing to be desired. It still failed, nevertheless, in meeting two urgent demands, a place of recovery for convalescents and a home for aged people who were no longer able entirely to maintain themselves; and in these respects it was rendered complete by the establishment and subsequent enlargement of the affiliated institution at Brighton, now containing 60 beds for convalescents and for the aged, beds with which the names of M. PAUL CAMBON, the Ambassador, and of M. et Mme. RUFFER are permanently associated. The French Government, too, justly mindful of the claims of those of its subjects who were assisting to maintain the commercial and industrial intercourse with England, to which both nations owe so much, has from the first been a munificent contributor to the cost of erecting the necessary buildings.

Few events in history, we think, are likely to act more beneficially or to exert a more powerful influence in the direction of peace and civilisation than the friendship between France and this country which is now a happily established fact and which restores the two nations to their proper places in relation to each other. The contemporaries of NELSON and of WELLINGTON were full of an animosity towards France which has long passed away and which it is only worth while to recall in order to point out its completely artificial and accidental character. The wars by which it was fed were not so much wars against France as against a striving for universal empire on the part of NAPOLEON—a strife in which a gallant nation had suffered itself to be led away from its better and earlier traditions by dreams of so-called "glory." We shall not estimate correctly the events thus arising or appreciate their really transitory character unless we remember how the soldiers of ELIZABETH and of HENRI IV. fought side by side against the somewhat similar dreams of empire of PHILIP of Spain, and how completely France in those days had been at one with us in the defence of civil and religious liberty against a despotism. She fought against us in the days of WILLIAM III. and of ANNE, but the struggle was of the same character as that with NAPOLEON, and England opposed the ambition of LOUIS XIV. as strenuously as she afterwards opposed that of the Empire. The true position of France in Europe is so great and her influence, when rightly used, must be so enormous that those who have striven to restrain this power and influence within their natural bounds should be regarded as her friends rather than as her enemies, and as having contributed to the consolidation of her empire rather than to any curtailment of her legitimate ambitions. At the present time, if undue ambition is to be feared on the part of any country, it is certainly not in France that it must be sought, and we have every reason to expect that our friendship with her and with her allies may exert a potent influence in restraining it, if it should exist, within those legitimate *spheres of operation* which are provided by the victories of peace, by the rivalries of inventors, by the efforts of the wise to bring about the increase and the diffusion of knowledge. The visit of the PRESIDENT of the Republic to this country has set the seal of his authority upon the growing friendship of two great nations, and his visit to the French Hospital was a fitting testimony of the care which in these enlightened days it so well beseems the great to extend towards the lowly. The English Hospital in Paris and the French Hospital amongst ourselves should afford to the benevolent of both countries additional opportunities of fostering relations by which both have much to gain and which to both are likely to be "twice blessed."

◆

The Local Government Board of Scotland and Public Abattoirs.

DR. FREDERICK DITTMAR, medical inspector to the Local Government Board of Scotland, has drawn up an official report on the provision of public slaughter houses by local authorities and the methods of meat inspection. Though this report is followed by suggestions for improvement[1] it shows very clearly that Scotland is far in advance of England in this important matter. It is satisfactory to find in this report an official endorsement of the principles for which we have contended in these columns since we took a leading part in the campaign against the inefficient control of the meat-supply. In the very first paragraph the report urges that not only the carcass but also the internal organs should undergo an examination "by an expert" before the flesh is placed on the market and offered for food. It will be remembered that some time ago the German authorities refused to admit into Germany the carcasses of cattle slaughtered in England unless the viscera remained attached so that the veterinary inspectors could make a full and proper examination. To insure such efficient inspection the report of the Local Government Board of Scotland insists, first, that animals "should be slaughtered in places under public control"; and secondly, that persons who decide as to fitness for human food should have no *interest to serve other than that of protecting the consumer.* Consequently they should be employed by, and paid by, "a public authority only"; and "private slaughter-houses, therefore, should be abolished and their place be taken by slaughter-houses under public control." The only exception admitted to this rule is in regard to such scattered communities as the crofters and fishing populations of the Western Highland and the Islands of Scotland. But the beauty of these fine pronouncements rests in the fact that in Scotland this is not merely theoretical. We are told that slaughter-houses belonging to town councils existed in several of the older burghs "almost from time immemorial." Of recent years a number of local Acts have been obtained authorising public slaughter-houses in nearly all the larger towns and many of the smaller burghs. The city of Edinburgh slaughter-house was built in 1851 and since 1865 private slaughtering has been illegal in Glasgow. Dundee had a public slaughter-house in 1876, Falkirk before 1885, Leith in 1863, and Kirkcaldy "from time immemorial." Altogether, out of the 205 burghs of Scotland 60·48 per cent., or 124, of these have public abattoirs. Of course, this represents a much larger proportion of the population as, with the exception of Aberdeen, it is the most populous burghs that have abattoirs. Again, though there are burghs that have no abattoirs this does not mean that they have private slaughter-houses. At Govan and similar burghs on the outskirts of Glasgow and other large towns they do not kill at all but fetch their meat from the public abattoir of the neighbouring town. And so the official report is able to state that from 88 to 90 per cent. "of the total burghal population of Scotland is provided with home-killed meat from slaughter-houses under public control."

These are facts and figures which should rouse the authorities in England and Ireland. If the latter country has the excuse of poverty for lagging behind this cannot be said of England. In Scotland, even in rural and sparsely populated districts, several very poor localities have been grouped together so that they might have a public abattoir between them. For instance, the Upper Deeside district of Kincardineshire and the burgh of Banchory, though their joint population only amounts to 1475 inhabitants, agree to share in the erection of a public abattoir. It would appear that there are 138 abattoirs in Scotland under public control and nine of these are in purely rural districts. These supply 90 per cent. of the population of the towns, or about 2,500,000 people. 340,644 people, or 11·5 per cent. of the town populations, obtain their meat from 154 private slaughter-houses situated in 63 burghs, and there are 563 private slaughter-houses in purely rural districts, with a total population of 1,500,000. Similar statistics in regard to England would constitute a humiliating comparison. In "Our Slaughter-House System," Mr. C. CASH, the author, only succeeded in obtaining information from less than two score English public abattoirs, and even where these existed the private slaughter-houses had not been all abolished. Yet, on the other hand, it would be altogether erroneous to conclude that all is perfect in Scotland. On the contrary, the main purpose of the official publication before us is to show the necessity of further reform. The report urges that no animal should be killed privately if the meat is to be placed on the market. At present pigs intended for curing are generally killed at the place of feeding, on the ground that "driven pork" does not cure well. But this obstacle can be overcome by the provision of sufficient lairage to enable the pigs to rest a few days after their journey and before they are killed. The report then demands that all towns should be compelled to have public abattoirs and that the plan of such structures should be first submitted for approval to the Local Government Board. The cost of construction and upkeep forms a legitimate charge against the public health rate of the district, but excepting in very sparsely populated rural districts the revenue would always prove sufficient to cover the outlay. To make a public abattoir pay, the law, it is suggested, ought to forbid the erection of any other private or public slaughter-house within a fixed radius, for instance, of five miles from a town which has only from 6000 to 8000 inhabitants. In districts where there are no slaughter-houses there should be travelling meat inspectors and the killing of animals intended to be sold for food should take place in the presence of such inspectors. An inspector, if not a veterinary surgeon, ought to have passed the examination held by the Royal Sanitary Institute. A special code should be issued so as to establish throughout the country a uniform standard of meat inspection. Then more energetic measures are needed to prevent the importation of meat. A half-carcass cannot be satisfactorily examined and boned meat cannot be examined at all. On this subject the report says:—

---

[1] Our Glasgow correspondent summarises these suggestions in our letter from Scotland this week.

> It has already been pointed out that the examination of dead meat can, under no circumstances, be fully satisfactory, as the internal organs, in which evidence of disease is so largely found, are necessarily absent. The Government of this country should therefore be satisfied of the thoroughness of inspection at the time and place of slaughter and before the meat is exported to this country.

Such are some of the requirements put forward by the Local Government Board of Scotland, and the Scotch are to be congratulated on the fact that they are very much in advance of the English. It is not too much to ask that we in England should have an early opportunity of enjoying similar benefits. As for London, it is needless to say that the metropolis is not only behind Scotland but is not on a level with some of the smaller English provincial towns. Perhaps the Blue Book just published may help to awaken the English public to a keener appreciation of what is urgently needed in this country.

◆

Medical Missions.

"IMPERIAL expansion" has its appropriate celebration in "Empire Day," and among the contributory forces leading up to the former and worthy of due commemoration on the latter is ~~that of the Medical Mission.~~ What that force has been, particularly in the later decades of the nineteenth century, can best be indicated by the word "circumspice." Wherever Great Britain has established a "sphere of influence" in regions savage or semi-civilised, tropical or subtropical, there she can point to the concurrent establishment of the means of rehabilitation, social and moral, prominent in which stands out the Church mission, reinforced by the medical coadjutor as its "right-hand arm." Eloquent illustration of this fact has just been given in Edinburgh at the General Assembly of the United Free Church, whose moderator for the year is the Rev. ROBERT LAWS, M.D., a worthy successor in that chair of the Rev. JAMES STEWART, M.D., honourably associated with himself in the construction and consolidation of Livingstonia, that great bulwark of British power and prestige in Central Africa. On the occasion of his appointment to the post of Moderator an esteemed correspondent of THE LANCET[1] commented on Dr. LAWS's career in the medico missionary field and gave a forecast of the light which he might be expected to throw on the present and future of that "civilisade" (to use JOHN STUART MILL'S appropriate coinage). That forecast has been amply verified. The "mission," wherever initiated, has been successful in the degree in which it has utilised its medical arm, a policy and a method of "opening the door" of which Dr. LAWS is himself a typical exemplar and expositor. "It is," he said, "a trite piece of history now that PARKER led the way for the Gospel into China with the point of his lancet," while for gaining an entrance into Mahomedan regions no method has been found so effective. This, he proceeded to prove, was seen in the experience of Dr. PATERSON and his colleagues in the work at Hebron, where, received at the outset with curses as enemies, they "were now welcomed with blessings as trusted friends." Nay, more. In the Livingstonia Mission "one remarkable feature had been that all their stations, with the exception of one, had been begun by the medical missionary, and, in the case of that exception, rapid advance took place only after his advent." So much for medico-missionary work if looked at in its broad general effects. But those effects are the outcome, the aggregate, of the work bestowed on individuals. "It was," he says, "the physical need of the individual patient, and the treatment of this need that opened the door to the individual heart with its need of that Gospel which the missionary brought."

In this way, as in every other missionary effort, "the treatment of the individual which, by GOD'S blessing, led to his conversion, added one to the Church, and when this becomes co-extensive with the population there was not only a Christian Church but a Christian tribe or nation." Dr. LAWS continued his exposition of the success that waited on missionary labour when medically reinforced by an eloquent tribute to the educational coadjutor who follows in the track so prepared—the whole system adequately supported and encouraged being conducive to that "Imperial expansion" which is the envy of Great Britain's contemporaries, far behind as those are in the enlightenment and philanthropy of their methods, and in the same proportion inferior in the impression which they produce on the tribe or population under treatment. Not that the medico-missionary is a civilising agent peculiar to the English-speaking world.

As already pointed out, the Portuguese and the Italians, even so far back as the first post-Reformation decades, were pioneers in missionary exploration and evangelising, aided by skill in the healing art; while the noble work of the Capuchin MASSAIA in the Galla country, of which (with its extinction of small-pox and the consequent triumph of his mission) a vivid account is given in the publication

---

[1] THE LANCET, Nov. 30th, 1907, p. 1550.

(Rome, 1895) of the "Missionari Catholici Italiani," must ever remain in our memories. But even those efforts—and particularly this last—lacked the systematic support and the "staying power" characteristic of Anglo-Saxon enterprise, and they remain rather as evidence of "the might have been" than of the *fait accompli.* With such examples of failure, past and contemporary, Great Britain will have herself to blame if she does not keep in the van of "Imperial expansion" so auspiciously begun, so fraught with future augury, if she does not vouchsafe all encouragement and support to the efforts, in which her various Churches compete in honourable rivalry, for the rehabilitation of her ever-increasing subject-races by the methods so conspicuously successful of the medico-missionary organisation.

Annotations.

"Ne quid nimis."

THE STANDARDISATION OF TETANUS ANTITOXIN.

IN a United States Treasury Bulletin[1] Dr. Milton J. Rosenau and Dr. John F. Anderson describe the American method of standardising tetanus antitoxin and compare it with the German method described by Behring, the French method of Roux, and the Italian method after Tizzoni. They state that the European standards are admitted to be unsatisfactory and for the most part inaccurate, further that they are complicated and difficult to carry out. The American method is the result of several years' work in the Hygienic Laboratory and it is believed that it will commend itself for its simplicity, directness, and accuracy. The standard toxins and antitoxins are preserved under special precautions to prevent deterioration and are tested against each other reciprocally so that the least alteration in either may be detected. The unit is based upon the neutralising value of an arbitrary quantity of antitoxic serum but the antitoxin is not issued to other laboratories for the purpose of control, as is the case with diphtheria antitoxin. All the tetanus antitoxic serums for use in man upon the American market are now measured against a stable, precipitated tetanus toxin, the test dose of which has been carefully determined. Before the establishment of the American standard the tetanus antitoxins upon the market varied widely in the unit strength claimed for them and were for the most part comparatively weak in antitoxin potency. The American official immunity unit for measuring the strength of tetanus antitoxin is ten times the least quantity of antitetanic serum necessary to save the life of a guinea-pig weighing 350 grammes for 96 hours against the official test dose of a standard toxin furnished by the Hygienic Laboratory. In other words, one-tenth of a unit of the antitetanic serum mixed with 100 minimal lethal doses of the standard toxin contains just enough free poison in the mixture to kill the guinea-pig in four days after subcutaneous injection. The antitoxic serum for the purposes of this standard was obtained from a single horse. The serum was dried, powdered, and preserved in vacuum tubes under the influence of pentaphosphoric acid, in darkness, at a temperature of 5° C. While the antitoxin so prepared is stable, duplicates are made from time to time so as to guard against loss or change and to insure the permanence of the standard. In order to obtain trustworthy and comparable results it is necessary to take into account all the factors concerned, including the composition of the poisons, their concentration, the diluting fluid, the length of time during which the mixtures are allowed to stand, the site of inoculation, and other factors. All the known factors have been considered in devising this method of standardising tetanus antitoxin which is described in detail in the Bulletin. The necessity for an accurate standard is shown by a table representing the differences in potency and in the methods of testing tetanus antitoxin before the adoption of the American unit. It is now well known that when the symptoms of tetanus have developed the toxin has combined with the motor nerve cells and that the union between the cell and the poison is too strong for the antitoxin to break up. But if the antitoxin is given in time the toxin is neutralised and rendered harmless. Tetanus antitoxin is therefore an exceedingly valuable prophylactic and for this purpose it is coming into more general use in human and in veterinary practice.

THE MIDDLESEX HOSPITAL AND CANCER RESEARCH.

THE weekly board of the Middlesex Hospital reported to a recent meeting of the court of governors that a special committee had been established which will have for its sole object the promotion of the interests of the Cancer Charity and the collection of such sums as shall place the advance of the research work beyond the impediment of pecuniary anxiety. An urgent public appeal is being made for funds to meet the expenses of the current year, £1000 of the requisite £2500 having been already subscribed. At the same court, which was presided over by Field-Marshal Lord Grenfell, Major-General Lord Cheylesmore, C.V.O., moved the adoption of the hospital's report, which was seconded in a very able speech by Mr. A. Pearce Gould. This was largely directed to warning those who were interested in the Cancer Research Fund against becoming disheartened by the comparative slowness and the apparent insignificance of the steps which it was making in its advance against the hidden strongholds of malignant disease. He pointed out the necessity of the patient and laborious collection of facts bearing upon every side of the question as being the sure foundation upon which successful treatment of the disease must ultimately rest. In this connexion he adduced the recent reopening of a lying-in ward at the Middlesex Hospital, saying that it was a demonstration of the advance in the knowledge of another dread disease—puerperal fever—the prevalence of which in hospitals not so many years ago had made such wards simply disastrous for their inmates. The benefits which poor parturient women now infallibly derived from them were due entirely to the anxious, persistent, and devoted investigation in the laboratory which had revolutionised the whole practice with regard to midwifery. He confidently looked forward to an equally signal victory over cancer which would be attained by similar means. We agree with Mr. Gould that patient research will ultimately solve the problem, but we are not without hope that some investigator may arise who will be possessed of the true scientific imagination to reduce a thousand isolated facts into the compass of apparent law, the enunciation of which will suggest further investigations for its verification until the inner heart of the mystery is laid bare. It is only once in several generations that a genius arises who could, for instance, be led directly from a crystallographic study of tartaric acid to the elucidation of the causes of puerperal septicæmia by sheer scientific insight, but the conquest of cancer awaits such a one as Pasteur and we would fain believe that he will appear in this country. Meanwhile the continued minute study of the natural history of cancer by every means at our disposal is worthy of the fullest measure of support, and, indeed, the money already expended has been justified by its first fruits, for Mr. Gould was able to tell his supporters that notably in the electrical department in a large number of cases great good had been done to the poor patients suffering from cancer who went to the Middlesex Hospital for relief.

---

[1] Bulletin No. 43, Hygienic Laboratory, United States Public Health and Marine Hospital Service, Washington, D.C., March, 1908, pp. 59.

INSTANTANEOUS RADIOGRAPHY.

AN interesting demonstration was given on this subject at the London Hospital on May 27th last when very satisfactory radiographs were made of some cases of aneurysm in from one-fifth to half a second. While so-called instantaneous radiographs were made some years ago by several workers it was not until quite recently that the method has been so far perfected that it could be adopted as a regular procedure and it is chiefly due to Dr. Graedel of Nauheim that it has been brought within the sphere of every-day radiography. It may surprise some to find that very little modification of their existing x ray apparatus is necessary so long as a high voltage continuous current is available. The best results are obtained with the 200 volt to 250 volt current from the main. A very large primary current is used, sometimes as much as 90 ampères, through a special triple anode electrolytic interrupter. There is no danger to existing cables, fuses, and so on, owing to the very short time during which the current is flowing, and for the same reason the x ray tubes are not damaged, though the current through the latter may be from 20 to 50 milliampères or more. While excellent results are obtained with the tube, say, 24 inches from the plate, good results are also obtained at a distance of 80 inches and in this case there is so little distortion that the parts are represented at almost exactly their natural size—so nearly so that an orthodiagraph is unnecessary. This and the convenience of dealing with fretful and fidgety patients, such as children, make this new modification one of considerable value. While no doubt all makers of x ray apparatus will be supplying outfits specially designed for this work it is only fair to state that it has been first introduced into this country by Mr. K. Schall, and that it was in the factory of the firm of which he is a member that the technical details were worked out. The firm also provided the apparatus used in the demonstration at the London Hospital.

THE NECESSITY FOR OBTAINING THE PATIENT'S CONSENT TO OPERATION.

THE necessity for obtaining the patient's consent to operation may seem too obvious to require discussion, but cases in which the question is not so simple as might be imagined occur from time to time. In the *Cleveland Medical Journal* for May Professor Alfred Olum has discussed some cases which are of considerable interest. In Minnesota a patient consulted an aural surgeon for deafness of the right ear. There were a large perforation in the lower portion of the membrana tympani and a polypus in the middle ear. The surgeon advised operation, to which the patient consented. At the latter's request his family physician was present at the operation. When the patient was under the anæsthetic the surgeon examined his left ear and found that it was in a more serious condition than the right and in greater need of operation. He found a large perforation high in the membrane and the bone of the inner wall of the middle ear necrosed. He called the attention of the patient's physician to the condition and recommended that the operation should be performed on the left ear. To this no objection was made. The patient had not complained of any deafness in this ear or known of any trouble in it. The operation was successfully performed but after it the hearing of the left ear was seriously impaired and the patient brought an action for assault and battery against the surgeon. The court held that the operation was a violation of the rights of the patient unless the surgeon could show that the patient had explicitly or implicitly consented to an operation on the left ear. The jury returned a verdict for the plaintiff. In another case a woman the subject of epilepsy consented to some minor operation on the pelvic organs which took place in hospital. She left the hospital saying that she would consent to no further operation. She was induced to return and a major operation was performed. An internal organ (not specified) was removed. There was some evidence that the anæsthetic for the operation was administered to the patient when she was asleep. The surgeon testified that her husband had given his consent to the second operation. The court held that whether such consent was obtained or not was unimportant, because the wife's consent was necessary. A verdict was given for the plaintiff with exemplary damages—$3000. On appeal the verdict was upheld and the court regarded the operation as a mutilation which the surgeon had no right whatever to perform. This case is the precedent in the American courts that the consent of a husband is no legal substitute for the consent of his wife when she is the subject of operation.

THE APPOINTMENT OF POLICE SURGEONS FOR EDINBURGH.

THE *Scotsman* recently contained a letter over the initials "A. W." concerning the rates of pay which the town council of Edinburgh is offering to the police surgeons who are to be appointed to the districts of the city. According to him the highest salary is to be £80, the lowest £15, and the average about £50. The duties, he says, are onerous enough, including a daily visit to the police-station, attention to prisoners, sick constables, and so on. He not unnaturally asks the town council whether it regards wages below those of a scavenger as suitable for the remuneration of educated professional men. "A. W." further asks what a trade union would say to such a scale of pay and we must answer him that medicine is in the hands of a liberal profession in this country and not of a trade union, although this may offer cold consolation to those ground under the iron heel of unfair contract practice. This case at Edinburgh, however, seems to be one for which some remedy might be found by the united action of the medical practitioners in the neighbourhood of the various districts concerned, and an effect might even be produced by individual representations to some of those councillors who have the control of the public purse-strings, which, according to the *Scotsman's* correspondent, are opened liberally enough in respect of the salaries of other officials or in the cause of "municipal banquets and miscellaneous entertainments."

THE BOMBAY MEDICAL CONGRESS.

WE desire to call the attention of all our readers who are interested in Indian medical affairs and tropical medicine to an announcement which appears in our advertisement columns of a Medical Congress which will be held in Bombay in the early part of next year. His Excellency the Governor of Bombay will preside over the congress, and amongst the vice-presidents will be the members of his council, the Director-General of the Indian Medical Service, the Principal Medical Officer H.M.S. Forces in India, the Surgeon-General with the Government in Bombay, the Senior Medical Officer of the Royal Navy in Bombay, the Principal Medical Officer of H.M.S. Forces, Poona Division, and representative native medical practitioners. The general secretary and editor of the Transactions will be Lieutenant-Colonel W. E. Jennings, I.M.S., and the central committee consists of representatives of the official and non-official branches of the medical profession in India. The special objects of the congress will be the consideration of tropical diseases and sanitation as applied to India; the session will extend over four days and the subjects will be considered in six sections—namely: I., Cholera, Dysentery, Enteric Fever, and Tropical Diarrhœa; II., Malarial Fever, Plague, Leishman-Donovan Body Invasion, and Relapsing Fever; III., Parasitic Insects, Snake Venom, Beri-beri, Mycetoma, Elephantiasis, and Leprosy; IV., Sewage Disposal in India, Water Supplies, Disinfection, and General Sanitation; V., Ophthalmic Surgery Urinary Calculi, and Miscellaneous Papers on Tropical Surgery; and VI., Exhibition of Pathological Specimens and Lantern Slide Demonstration. In view of the great advances which are being made by the sanitary service of India we have no doubt that the forthcoming congress will be productive of very useful results for that and other tropical countries, and we trust that the profession in England will avail itself of the general-secretary's invitation to contribute papers for the consideration of the central representative committee.

THE FORMATION OF A MEDICAL BENEVOLENT SOCIETY FOR THE EAST AND NORTH RIDINGS OF YORKSHIRE.

IN the East and North Ridings of Yorkshire although the need has long been felt of such a society and the question of its formation has been raised on many occasions it is only recently that any definite action has been taken. Some months ago a provisional committee was formed in Hull which, after investigating the matter, decided that the formation of a society on the lines of the West Riding Medical Charitable Society was most desirable, and the views of the whole of the medical practitioners (nearly 500 in number) in the East and North Ridings and the city of York were obtained by circular letter. The response was so satisfactory that a meeting was held at York on May 21st and the society was definitely formed. More than 100 members have already joined, including a large number of life members. The annual subscription was fixed at 1 guinea and for life members at 10 guineas. Only members or their relatives can participate in the benefits. The first officers of the society are: President, Dr. J. Mitchell Wilson, Beverley. Vice-Presidents, Mr. W. H. Jalland, York; Dr. F. W. A. Godfrey, Scarborough; Mr. R. H. B. Nicholson, Hull; Dr. C. A. Lee, Hull; and Dr. H. J. C. Godfrey, Bridlington. Treasurer, Dr. E. M. Hainworth, Hull. Honorary secretary, Dr. Edward Tutton, Hull. From the support already received the future success of the society would seem to be assured.

THE FRANCO-BRITISH EXHIBITION AND SUNDAY OPENING.

THE question of the Sunday opening of this exhibition is now being much debated, and in this connexion it is interesting to quote the editorial article which appeared in THE LANCET of April 16th, 1853, referring to the opening of the Crystal Palace on Sunday, the Palace after it had been used for the Great Exhibition of 1851 having been removed to Sydenham:—

> Those who are industriously bent upon *resisting* the opening of the Crystal Palace at Sydenham on Sundays, seem to consider that their other arguments will be strengthened if they can enlist the support of the medical profession. A petition is now being *actively* circulated amongst medical practitioners, which appears to us to be singularly inconsistent in fact and reasoning. The document sets out with the following proposition:—
>
> > That your petitioners, from their acquaintance with the labouring classes and with the laws which *regulate the animal economy*, are convinced that a seventh day of rest, instituted by God, and co-eval with the existence of man, is essential to the bodily health and mental vigour of men in every station of life.
>
> We may freely admit the proposition; but how does it follow that escape from the dingy town, and "fresh air and recreation" in Penge Park must be "pregnant with disastrous results to the health of the labouring classes"? There may possibly be objections of a moral and religious character against the measure—and these it is not our province to consider—but certainly it is neither reconcileable with our knowledge "of the laws which regulate the animal economy," nor with the plainer laws of common sense, to contend for the closing of the Crystal Palace on Sundays on sanitary or medical grounds.

It will be seen that 55 years ago the same subject was being debated with as much vigour as it is this year, and it would not be surprising if the partisanship of the medical profession were attempted to be enlisted in the same manner that it was at that length of time ago. Medical men themselves who work seven days in the week should know a good deal about the effects of Sunday labour from a personal point of view, and it is possible that they may be represented as desirous of seeing the exhibition closed on Sundays in the interests of the persons employed in its management. On the other hand, it may be argued that the enormously increased receipts which would follow Sunday opening would enable the directors to enlarge their staffs and so to provide that their employees should get one day in seven free. The question of the opening on Sundays of the Franco-British Exhibition is obviously a difficult one, but we see little reason to contend for its closing on sanitary or medical grounds, even if the "fresh air" of Shepherd's Bush of 1908 be not quite comparable with the "fresh air" of Penge Park in 1853.

THE ILLINOIS STATE BOARD OF HEALTH AND ITS CRUSADE AGAINST TUBERCULOSIS.

WE have received copies of the seventh revised edition of a circular on "The Cause and Prevention of Consumption," issued by the Illinois State Board of Health and written by Dr. James A. Egan, secretary to the Board. This Board, with commendable public spirit, has started an active crusade against tuberculosis in the State of Illinois, and one of its chief objects is to diffuse knowledge among the general population in regard to the prophylaxis and treatment of this disease which, it is stated, causes 150,000 deaths annually in the United States and between 7000 and 8000 deaths in the State of Illinois. We learn from a cutting from the *Journal*, Springfield, Illinois, of Feb. 23rd that it is intended to distribute 100,000 copies of the circular to the physicians and school-teachers in the State, to University students, charitable organisations, clubs, churches, and other similar bodies. It is hoped that by the coöperation of the medical profession it will be possible to place a copy in the hands of every consumptive person in the State. Copies can be obtained without charge by any citizen in Illinois who desires to receive one. The circular itself is in the form of a pamphlet of 60 pages inclosed in a cover. It is liberally illustrated and is written in such a manner as to be easily intelligible to the layman, for whom it is, of course, primarily intended. After an introduction describing the prevalence of the disease and the ravages which it makes, the importance of prevention is pointed out and the phrase "No spit, no consumption" is repeated in thick type on many pages as a serious warning. General directions are given to consumptives as regards their mode of life, their diet, and their home treatment. Various illustrations are given of suggestions for open-air or "out-of-door" treatment at home, such as that by sleeping in a porch, verandah, or lean-to. The useful "window tent" introduced by Dr. S. A. Knopf of New York is also figured and described. Directions for the general hygiene of the sick room are given and excellent information is afforded in regard to disinfection. Nearly half the book is devoted to the treatment of consumption in Illinois and to a consideration of the need for a State hospital or sanatorium for the care of consumptives. Illustrations are given of some of the other sanatoriums in the United States, notably of the Adirondack Cottage Sanatorium at Saranac Lake. The Illinois State Board of Health is to be congratulated on the strenuous efforts which it is making to deal with this important problem and on the really admirable pamphlet which Dr. Egan has produced for it. If an abridged form of it could be supplied to many of the consumptives in this country it would serve a useful purpose.

HOSPITAL STOPPAGES IN THE NAVY.

THE *Naval and Military Record* in a recent issue directs attention to an ancient naval grievance, the existence of which is one of those mysteries that none but a Government office can attempt to explain. A man who contracts venereal disease is allowed 30 days' hospital treatment on full pay, but a man who, through no fault of his own, contracts other forms of disease is liable to certain reductions of pay whilst in hospital: after 30 days every naval patient is subject to these stoppages, irrespectively of the nature of his malady. The stoppages are slight but irksome, and the distinction drawn between the different classes of disease in their imposition is so unjust as to be almost ludicrous. The paper from which we quote remarks pertinently that sailors do not contract fevers purposely, or stop in hospital for the pleasure which they derive from it, but we cannot agree with its further dictum that every man who contracts venereal disease should have a portion of his pay stopped during the whole period of hospital treatment, for we hold that the disease brings sufficient punishment of itself. Moreover, the State secures the services of men under conditions which detach them from home influences and render marriage imprudent and in many cases impossible, whilst the temptations to which Jack ashore is exposed are notorious. The State at the same time, with what seems to many a pusillanimous dread of uninstructed public sentiment, enacts no preventive regulations to check venereal disease at any of the great naval stations. We would rather reserve the hospital stoppages for men who contract the disease and neglect to report it immediately they are aware of the fact to the medical officer of their ship or division, and who are detected subsequently, for such men injure themselves and the service and are, moreover, very liable to infect others.

THE HAMPSTEAD GENERAL HOSPITAL.

DURING the past year we have had on several occasions to refer to the affairs at the Hampstead General Hospital, which ultimately led up to its amalgamation with the North-West London Hospital. The constitution of the combined hospitals has been finally settled at a recent meeting of the council, at which it was decided that the regular out-patient department at present in existence at Hampstead should be closed and any necessitous cases should be referred in future to the department at Kentish Town. There is no shadow of doubt that an out-patient department is needed in that very poor district, and we think that the council has acted wisely in closing the department adjoining the hospital on Haverstock Hill except as regards the attendance of casualty cases. The existence of that department has been a standing grievance to many practitioners in the neighbourhood, and, at a time when the relations between the hospital authorities and the local medical men have been so unfortunately strained owing to a complexity of causes, the removal of a department which was very generally agreed to be unnecessary at Hampstead will, we hope, do something to smooth out the whole matter. With regard to the recent change of staff, we sympathise fully with the position of the gentlemen who have served the hospital so well and faithfully until the present rearrangement brought about their voluntary retirements, and we admire the manner in which they forfeited their personal interests in making common cause with their local professional brethren, but there is no doubt that the action of the hospital council was to a great extent forced by the fact that it has increased to such a size that it could not afford to become independent of King Edward's Hospital Fund, and this being the case the solution that has been arrived at was inevitable, hard as it was upon individuals. Now that the matter is *fait accompli* we can only express a hope that the utility of the institution will not be affected by anything of the nature of a professional boycott in the neighbourhood, for such a procedure could only harm the charity in question without in any way advancing the cause of those who desired the staff appointments to remain in the hands of local medical men.

LONDON INTER-COLLEGIATE SCHOLARSHIPS BOARD.

THIS Board was constituted in 1904, with the approval of the governing bodies of University College, King's College, and the East London College, for the purpose of holding a combined annual examination for entrance scholarships and exhibitions tenable at those colleges and at such other "schools" of the University of London as might afterwards agree to make use of the organisation of the Board. An arrangement has now been entered into with various other colleges and medical schools and a combined examination for medical entrance scholarships and exhibitions will be held in September next. The aggregate value of these scholarships and exhibitions amounts to £1500 and they are 23 in number. They are tenable in the faculties of medical sciences of University College, King's College, and in the medical schools of King's College Hospital, St. George's Hospital, Westminster Hospital, and the London School of Medicine for Women. The examinations will be held in London by the London Inter-Collegiate Scholarships Board on Sept. 22nd and following days. Candidates will be admitted to the examination for the scholarships and exhibitions under the various regulations governing them. For full particulars and entry forms application should be made to the secretary of the board (Mr. Alfred E. G. Attoe, University College, Gower-street, London, W.C.), or to the deans (or secretaries) of the medical schools concerned.

THE REFINING OF SALT.

IT may not be strictly a medical subject, but common salt is for domestic purposes so closely associated with our daily life, to say nothing of its importance in manufacture, that it may be of interest to refer to a great change, which has already got beyond the experimental stage, in the manner of its refining. No change in the principle of the refining process has taken place since before the time of the Romans —the solution of the rock-salt in water, with its subsequent evaporation. In the new process, called the Tee process after the name of the inventor, water is not used. The rock salt, impure and discoloured, as it is often found, is melted and purified by fire. While liquefied the impurities are precipitated and when the liquid cools and becomes solidified in a mould the salt is found at the top and the impurities below, while between the two is a distinct line of demarcation. A demonstration of the new process was given quite recently at some works near St. Helens. The rock salt was carried in barrows to the top of a huge oven and dropped in on to a metal plate heated to whiteness by gas. Rock salt requires for its melting a temperature of 1400° F., to which point the table evidently was heated, for it flowed off it as a liquid and fell into a recess below. After a time a quantity was drawn off into a large mould and compressed air was forced into it till a violent ebullition was set up to facilitate the precipitation of the impurities to the bottom of the mould. After the mould was allowed to cool it was found that all the mpurities had sunk to the bottom, leaving pure white solid alt at the top. The impure portion of the block is separated asily by a blow with a chisel. The pure salt may then e ground to any degree of fineness required. The new method is said to be much cheaper than the old one and much more economical of time, taking hours only while the ld one required days. Another advantage is that by the fire process the salt is freed from water and in this anhydrous condition is very slow in absorbing moisture from the atmosphere, so that no ingredients need be added to prevent t from "caking." Some hundreds of tons have been efined, tested, and analysed with, it is said, quite satisfactory results, and works on a large scale are to be erected where the new method can be carried on.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

It will be remembered that in Lord Mount-Stephen's letter o the Prince of Wales which accompanied his recent plendid donation to King Edward's Hospital Fund he expressed a hope that the friends of the fund would unite n raising the further capital sum required to increase the permanent income of the Fund to £75,000 a year, the income rom subscriptions being now estimated at the like sum. His Royal Highness has now contributed £500 himself and has received from Lord Revelstoke a gift of £500, from Mr. Frederick M. Fry £250, and from an anonymous donor £1000 as contributions to this object.

THE DALRYMPLE HOME FOR INEBRIATES: AN INTERESTING REPORT.

The annual report of the Dalrymple Home for 1907 shows a continuance of the steady progress which has marked the history of this institution under the management of its present medical superintendent, Mr. F. S. D. Hogg. During the year 36 patients were received and 39 were discharged. With regard to the patients received Mr. Hogg notes with regret that only ten were inebriates certified under the Act, the other 26 being private patients, over the duration of whose stay under treatment the physician can exercise no legal control. It is an extremely gratifying fact that, even under these very unfavourable conditions, the after-history of traceable cases should show so high a proportion as 62 per cent. under the rubric "doing well," while only 22 per cent. are returned as "not improved." It is interesting to note that Mr. Hogg's wide experience has satisfied him that the sudden and complete stoppage of alcohol is not attended by any of those risks to the health of habitual drunkards which many people, and, as Mr. Hogg drily observes, especially many patients, attribute to this drastic method. On the contrary, he has found that appetite and natural sleep are restored very much sooner when this mode of treatment is followed than when the use of alcohol is gradually discontinued. A matter on which Mr. Hogg lays very special stress and regarding which he speaks with exceptional authority, is the present unsatisfactory state of the law which so deplorably hampers the application of institutional treatment to drunkards who do not possess the further qualification of being criminals. As matters stand, a man may be in a condition of chronic alcoholic or drug poisoning or may be periodically in an unfit condition for decent society, but so long as he avoids criminal acts and is not persistently in such a state that he may be classed as insane, he is free to squander his capital, to ruin himself and his family, and to drink or to drug himself to death; and unless he decides to place himself under treatment nothing can be done to save him. The remedy which Mr. Hogg advocates is that inebriates of this class should be certified much in the same way as lunatics are certified and that they should be placed compulsorily under treatment before they have financially, mentally, and physically foundered. We find this simple plan reasonable; something of the sort should certainly be adopted when the Government fulfils its promise of introducing legislation to amend the Inebriates Acts.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

The following are particulars of the course of lectures and demonstrations which have been arranged to take place at the rooms of the Incorporated Society of Medical Officers of Health in London during Whit-week:—

Tuesday, June 9th.—3 P.M.: Opening Meeting in the rooms of the Society, 1, Upper Montague-street, Russell-square, London, W.C. Address by Dr. James Kerr, chief medical officer of the London County Council Education Department.

Wednesday, June 10th.—11 A.M.: Lecture on "Medical Inspection," by Dr. C. J. Thomas (L C.C. Education Department). 2 P.M.: Visit to schools. 5.30 P.M.: Lecture, "*Anthropometry,*" *Dr. F. C. Shrubsall*; *Physical Exercises*, Dr. Shrubsall.

Thursday, June 11th.—10.30 A.M.: Demonstration of Special Cases, Dr. Kerr (L.C.C. Education Offices). 11.30 A.M.: Office Routine; Ringworm Examination, &c., Dr. Thomas (L.C.C. Education Offices). Visits to Schools. 2.30 P.M.: Lecture, "Eyes and Ears," Dr. Kerr. 3.30 P.M.: Lecture, "School and Home; Infectious Diseases," Dr. H. Meredith Richards. 5.30 P.M.: Lecture, "School Clinics," Dr. A. H. Hogarth.

Friday, June 12th.—10.30 A.M.: Demonstration at London County Council Education Offices, Dr. Kerr. Visits to Schools. Further arrangements are in contemplation.

An exhibition of appliances, outfits, record systems, office requisites, and so on, will be open daily from 10 A.M. to 6 P.M. All desirous of attending the lectures are requested to communicate with Mr. W. A. Lawton, at the offices of the Incorporated Society of Medical Officers of Health, 1, Upper Montague-street, Russell-square, London, W.C.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE AT BUDAPEST, 1909.

A meeting of the National Committee for Great Britain and Ireland of the Sixteenth International Congress of Medicine was held at the rooms of the Medical Society of London on May 28th, Dr. F. W. Pavy, F.R.S., being in the chair. The National Committee was reconstituted by incorporating 22 new members with the former committee. It was proposed by Mr. W. H. H. Jessop, seconded by Mr. L. Eliot Creasy, and carried unanimously, that the officers of the new committee should be Dr. Pavy, President, and Mr. D'Arcy Power and Dr. Clive Riviere, honorary secretaries. Letters were read from the general secretary of the Congress stating that it would be held at Budapest from August 29th to Sept. 4th, 1909, under the patronage of his Imperial and Apostolic Royal Majesty Francis Joseph I. It was further reported that certain changes had been made in the method of obtaining scientific communications; no members or societies had been invited directly to contribute but all papers and discussions had been left to the initiative of individuals. In these circumstances the National Committee felt that it was necessary to urge those who proposed to read papers to send in the titles to the general secretary (Professor Emil Grósz, Esterhazy-utcza 7, Budapest VIII.) as soon as possible, because it is very desirable that the medical profession in the United Kingdom should be adequately represented at the Congress. The work of the Congress is divided into 21 sections of which the sixteenth section, Otology, is to be held simultaneously with the Eighth International Congress of Otology. The remaining sections are Anatomy and Embryology, Physiology, General and Experimental Pathology, Microbiology (Bacteriology) and Pathological Anatomy, Therapeutics, which includes Pharmacology, Physical Therapeutics and Balneology, Internal Medicine, Surgery, Obstetrics and Gynæcology, Ophthalmology, Diseases of Children, Diseases of the Nervous System, Psychiatrics, Dermatology and Venereal Diseases, Diseases of the Urinary Tract, Laryngology, Otology, Stomatology, Hygiene and Prophylactic Medicine, Medical Jurisprudence, Military and Naval Hygiene, and Tropical Diseases. There will probably be the usual reduction in railway fares for those who attend the Congress but no details are as yet forthcoming. Should a sufficient number of members from Great Britain and Ireland signify their intention of attending it may be possible to obtain a special through train from Boulogne to Budapest. The cost of membership is 25 crowns (which is approximately £1 sterling) for each member and half that amount for members' wives and daughters. The money can be remitted by post-office money order payable to Professor Dr. Elischer, treasurer of the Congress, at the current rate of exchange.

THE death is announced of Dr. Prior Purvis of Blackheath at the great age of 95 years. Dr. Purvis obtained the degree of M.D. London in 1842.

THE President of the Board of Education has appointed Miss Janet M. Campbell, M.D. Lond., to the Medical Department of the Board.

THE annual banquet of the Coroners' Society of England and Wales will be held at the Holborn Restaurant, London, on Thursday, June 18th, at 6.45 for 7 P.M. The honorary secretary is Mr. Walter Schröder.

THE Hunterian Society has decided to award a silver medal annually for the best essay by a general practitioner embodying the results of original observations. Intending candidates can obtain full particulars from the senior honorary secretary, Dr. W. Langdon Brown, 37A, Finsbury-square, London, E.C.

THE annual Bolingbroke lecture will be delivered on Friday, June 12th, at 9 P.M., before the South-West London Medical Society, at the headquarters of the 4th Volunteer Battalion East Surrey Regiment (opposite Clapham Junction Station), by Dr. David Ferrier who has taken as his subject "Hysterical Paralysis." Medical men other than members of the society are cordially invited.

THE Harben lectures (1908) of the Royal Institute of Public Health will be delivered in the lecture theatre of the institute on Wednesday, June 10th, 17th, and 24th, at 5 P.M., by Professor George H. F. Nuttall, M.D., D.Sc., F.R.S., Quick Professor of Biology in the University of Cambridge, on the following subjects:—Lecture 1, Ticks, their Biology and Structure; Lecture 2, Spirochætosis in Man and Animals; and Lecture 3, Piroplasmosis. To these lectures all who may be interested are cordially invited.

EASTBOURNE WORKHOUSE.—It is not at all surprising to learn that the Local Government Board will not permit of any further extension of the old workhouse premises at Eastbourne. The guardians had hoped to provide for their increasing indoor poor in this way but met with a prompt refusal. The present buildings, originally cavalry barracks, were all very well when workhouses were chiefly for the relief of the able-bodied and not the sick, the aged, and the infirm, who now greatly preponderate, and in view of the great changes that have come over Poor-law administration, particularly as regards the nursing of the sick, it seems a wonder that the guardians were not called upon to build new premises some years ago. The board has now decided to build a new workhouse on its estate at Willingdon to accommodate 550 inmates at a cost of £50 per bed for the able-bodied, and £100 per bed for the infirmary inmates. This decision was only arrived at by a very narrow majority, several guardians favouring delay until the report of the Poor-law Commission was issued. Of the present inmates 102 [illegible] age of 70 years.

AMERICA'S TRIUMPH IN PANAMA:

THREE YEARS' MEDICAL AND SANITARY RECORD IN THE CANAL ZONE.

BY JOHN GEORGE LEIGH.

IT was my privilege some three years ago to contribute to the pages of THE LANCET a series of articles[1] explanatory of certain climatic and hygienic problems then facing the United States Administration in the inaugural stages of the stupendous enterprise which it had undertaken and pledged itself to achieve in the Central American isthmus. In these I expressed a firm conviction that, despite some initial errors (not, I trust, unkindly criticised), and many visible and yet undisclosed difficulties, success would crown its efforts; basing my confidence—not upon the feasibility of the project, the skill of modern engineers, or the command of immense monetary resources—but upon the probability of a satisfactory reply being forthcoming to the following question: Can the health conditions of the isthmus be so ameliorated as to prevent, during the period of canal construction, a recurrence of the appalling mortality among the labourers which accompanied the building of the Panama railroad and the work of excavation along the canal route in the days of the de Lesseps Company? In the course of my remarks I referred at considerable length to the eventful and usually lugubrious history of the isthmus; the latter's evil reputation as a hotbed of malaria and yellow fever; and the misgivings with which sincere well-wishers of the enterprise regarded a then threatened radical modification in the design of the canal. Superficially, it seemed a matter of little moment, from the standpoint of health conditions, whether the canal were built with a summit level and locks or excavated throughout the entire distance to 35 or 40 feet below the mean level of the ocean. It is happily unnecessary to-day to recall the arguments with which I sought to controvert this assumption and to demonstrate, on the contrary, that the question was of paramount importance; for the sea-level canal—thanks to the strenuous opposition of the few rather than the good sense of the many—has gone the way of the Nicaragua, Darien, and other more or equally specious projects for uniting by an artificial navigable highway the waters of the Atlantic and Pacific oceans.

It may, however, be pointed out that the fear expressed in June, 1905, was amply justified, for early in the following year a majority (including all the foreign members) of the Board of Consulting Engineers, to whom had been delegated consideration of all the plans, decided to recommend, for final adoption by President Roosevelt and Congress, a waterway everywhere brought down to sea-level. This result was hailed with satisfaction from two quarters: by the men who honestly believed that such a canal, when completed, would offer superior advantages to commerce, and by others interested in the trans-continental railroads, who remained faithful to the tradition of supporting that rival enterprise which promised to be most difficult and dangerous and costly in time and money. Their joy, however, was but short-lived, for, side by side with the recommendation to which I have referred, the President and Secretary of War were able to consider reports from the minority of the Consulting Board and the then Isthmian Canal Commission and chief engineer, each strongly favouring adherence to the high-level project as not only more desirable from technical and economic standpoints but also as promising superior efficiency. The arguments advanced in these documents seemed, and indeed were, so conclusive that Congress, after some months of useless talk, abandoned its earlier and newly revived predilections and decided to vote the required appropriations, leaving to the President, his advisers, and nominees unfettered discretion in determining and building such type of canal as appeared to them desirable.

In my first article, referring to the impending conflict, I wrote: "It seems not unreasonable to suggest that, before the fateful decision, the last word should be spoken not by the aspiring engineer but by the profession which will be held mainly responsible should the prophecies of ill be justified by events." Fitting regard was, of course, given by the Executive and Congress to engineering and commercial considerations, but no one will deny that both in committee and open debate the really determining arguments were those having relation to topography, climate, and hygiene. It was, in brief, impossible to avoid the conclusions that the more disturbance there was of the low-lying, malaria-laden marsh lands, and the longer the time devoted to the work of canal construction, the greater must be the risk of abnormal sickness and mortality among the labourers and their supervisors, and this quite regardless of the measure of success, large or small, attending the operations of the medical and sanitary departments.

---

[1] Sanitation and the Panama Canal: the Solution of Certain Climatic and Hygienic Problems, THE LANCET, June 3rd (p. 1530), 10th (p. 1597), and 24th (1726), 1905.

Since the sea-level project was dismissed from consideration as a practical alternative to the proposed canal with locks the isthmus has been the theatre of remarkable activity and continued valuable work. Appreciation of the last-mentioned was, however, for a long time overshadowed by bickerings and discord among the many administrative departments, the intrigues of politicians at Washington, and the persistence with which sensation-mongers, not always of the usual irresponsible type, devoted themselves to the apparently congenial occupation of "smelling out" scandals and threatening lurid "revelations." Among those who took part in this campaign were, it is regrettable to recall, some members of the medical profession, whose allegations for the most part were based upon the distorted and unsubstantiated testimony of dismissed or disgruntled employees or, at the best, a few days', ofttimes few hours', personal experience of the isthmus. The situation at length became so unendurable, and even dangerous, that it was with positive relief that well-wishers of the enterprise received the announcement of the revolutionary administrative changes of March and April of last year.

These changes placed the government of the Canal Zone and the work of canal construction, actually as they had already been in theory, in the hands of the War Department and freed both from the incubus of political interference. All the members of the then existing and newly reconstituted Canal Commission were induced to resign and to the vacancies thus created were assigned Lieutenant-Colonel G. W. Goethals of the Corps of Engineers, U.S.A., as chairman and chief engineer; two officers of the same corps, Major D. D. Gaillard and Major W. L. Sibert; Colonel W. C. Gorgas, M.D., Assistant-Surgeon-General, U.S.A.; Civil Engineer H. H. Rousseau, U.S.N.; and two civilians, Mr. J. C. S. Blackburn and Mr. Jackson Smith. All these appointments have been fraught with happy consequences, and none more so than that of Colonel Gorgas, whose promotion to the rank of Commissioner must be regarded not only as a well-merited personal compliment but also as a national recognition through the chief of the Executive of the immense services which are being rendered to the United States in the prosecution of its great undertaking by members of the medical profession. It has been largely due to the devotion with which his staff has seconded Colonel Gorgas's efforts and to the loyal support given by the Administration to the policy and representations of the health officers that it is already possible to describe the canal enterprise as realising the writer's confident belief of 1905—namely, that it would, "during construction, prove the most striking object-lesson ever offered of the benefits to be derived from a well-organised sanitary organisation associated with a great public work."

Before I review the achievements on which this assertion is based it may be desirable to refer, in brief and general terms, to the character of the undertaking as a whole. The canal now in course of construction differs in many essential details from that outlined by me in 1905 and that recommended for adoption in the reports of engineering experts to which reference has already been made. During the past two years and even within the last few months the plans have been subjected to such drastic revision and modifications that, until now, it has not been possible to estimate, with any measure of certainty, their complete scope and approximate cost. As now arranged, the Atlantic terminal of the canal will be between breakwaters built across the entrance of Limon Bay, and thence ships will pass through a channel, 500 feet wide and 41 feet deep to the shore line, a distance of 4·55 miles, and to the locks at Gatun 2·6 miles inland. At Gatun there will be built duplicate flights of three locks, by which the summit level will be reached, and also a great dam and regulating works. The object of these latter is to form a great reservoir, or inland lake, some 170 square miles in area, giving open navigation in a broad waterway all the way from Gatun to Obispo, and into which the floods of the Chagres will be received, controlled and utilised for the service of the canal. The total length of the lake—the surface of which will be 85 feet above the mean level of the oceans—will be 30 miles, and for half this distance only a small amount of excavation will be required to provide a navigable channel 1000 feet wide at the bottom and 45 feet deep. Elsewhere, as the amount of excavation necessary to obtain the minimum depth of 45 feet increases, the width will be decreased to 800 feet for a distance of 3·86 miles, 500 feet for 3·73 miles, 300 feet for 1·55 miles, and, finally, to 200 feet for 4·7 miles through the deepest portion of the Culebra cutting. Then the channel will become 300 feet wide for 1·88 miles to the Pedro Miguel lock, where the summit level will end, and the first descent be made to the level of the Pacific. This will be finally reached by a flight of two locks at Miraflores, whence there will be a channel, eight miles in length and 500 feet wide, to deep water in the ocean. Thus the total length of the canal from ocean to ocean will be 49·72 miles, divided into four levels by three flights of six locks, the last being in duplicate in order to provide against any delay to shipping arising out of the from time to time inevitably necessary repairs and renewals.

From data gathered and surveys made during the first year or so of the American occupation of the Canal Zone it has been estimated that to complete a navigable highway between the oceans of the type outlined above there would be required 124,310,000 cubic yards of excavation. Of this quantity—the immensity of which may be gauged from the fact that one and a half cubic yards of rock or earth is a good load for a two-horse waggon—the American steam-shovels and dredges accounted for 9,795,000 cubic yards up to March 30th, 1907. So nearly perfect, however, was the organisation on that date that in the 12 months following there was added to the record of excavation no less than 22,000,000 cubic yards, of which quantity about half was removed from the Culebra cutting. The record of monthly excavation has also regularly been raised. The totals, for example, for August, September, and October last, the three wettest months of the year, were respectively 1,285,791, 1,517,412, and 1,868,729 cubic yards, as against for all three corresponding months of 1906 1,470,779 cubic yards. In February, 1908, the total excavation was 2,945,880 cubic yards, and in the following month no less than 3,480,270 cubic yards. Added significance is lent to these figures by the fact that under the old *régime* 1,000,000 cubic yards a month was looked upon as a record only to be reached under the most favourable conditions.

The performances of the Department of Excavation and Dredging during the year ended March 30th last are not only remarkable in themselves but also eminently suggestive of the near approach of the time when we may begin to talk confidently of the completion of the canal. If work could be continued at the same high pressure and "making the dirt fly" were the only or main consideration, five years hence might witness the solution of the great problem which has vexed civilised mankind since Balbao first gazed upon the Pacific. To complete the Panama Canal, however, there will be required huge locks and dams and other accessory structures, some of dimensions and types unparalleled in the history of modern engineering, and one at least of such daring character as to be vindicated only by success. Preparations are now on foot for the initial work of construction, and it is hoped that the latter may be continued *pari passu* with the removal of earth and rock so as to justify the apparently not over-sanguine expectation of the authorities on the isthmus that the canal will be practically completed, if not actually opened for traffic, in the early months of 1915.

When the Americans, on May 4th, 1904, took formal possession of the canal properties they found between 600 and 700 men employed on the works, the majority continuing in somewhat perfunctory fashion the excavation of the Culebra cutting and the remainder occupied as caretakers of the machinery and stores of the French company. In the following November the Canal Commission's employees on the isthmus numbered 3500; on June 30th, 1906, there were on the canal work 500 white Americans and Europeans and 13,625 West Indians, and on the Panama Railroad an additional force of 5475 men; on June 30th, 1907, the canal employees numbered 4317 whites and 14,606 West Indians and those of the railroad company 10,523; and at the end of January last the total force of the Canal Commission actually at work was 25,367 men and of the Panama Railroad 6557 men. On Feb. 29th last the white employees of the Commission numbered 5083 and of the Panama Railroad 1091, all accommodated, together with 1275 women and 1067 children, in quarters provided by the Commission. There were also on the same date about 200 women and 200 children, relatives of white employees, residing in independent quarters in Colon and Panama.

Referring in June, 1905, to the health conditions then prevailing in the isthmus—improved certainly since the American occupation, but still far from satisfactory—I deprecated very strongly, first, any undue haste in introducing the vast army of immigrant labour required to complete the canal; and, secondly, the inclusion among these recruits of any considerable number of Asiatics (Chinese or Japanese), "the most susceptible of any people to yellow fever infection. It must now be evident," I added, "even to the most confirmed doubter, that yellow fever is still endemic on the isthmus, and that neither Colon nor Panama can be considered reasonably secure from a recurrence of dangerous outbreaks until each is provided with an ample and wholesome water-supply; for, pending such improvement, it is obviously impossible to prohibit the use of water-containers, the favourite breeding place of the stegomyia mosquito. Nor can it be hoped, until the long-promised waterworks and sewers are in operation, that there will be any sensible diminution in the general death-rate."

For purposes of comparison (always bearing in mind for later periods the increased population, largely of immigrant labour, with but little earlier experience of sanitary regulations) between the condition of things during the first months of American rule and figures to be hereafter quoted the following brief summary of statistics will repay attention. The death-rate per 1000 among the entire population of the Canal Zone, Panama, and Colon, during the year ended Oct. 31st, 1905, was 53·78, the records ranging from about 40 in the earlier months to 66·40 in October. During the same period the rate of mortality among employees of the Canal Commission averaged 24·30 per 1000, the minimum return of any one month being 14 and the maximum, that for July, 46·11. The total record of cases of yellow fever and deaths from July 1st, 1904, to Oct. 31st, 1905, was 241 and 80 respectively, the maximum figures of 62 cases and 19 deaths being those of June. Other deaths by disease throughout the zone during the 15 months ended August 31st, 1905, were: malarial fever, 86; typhoid fever, 10; pernicious fever, 22; dysentery, 46; beri-beri, 36: tuberculosis of the lungs, 54; and pneumonia, 49.

Since the period with which these figures deal the isthmus has been the scene of many remarkable changes; indeed, it may without exaggeration be said that not only the face but also the character of the country have been altered. In my earlier contributions, it may be remembered, I referred at length to the physiological effects of its high temperature and debilitating humidity, accentuated by the noisome exhalations from decomposing organic matter, upon not only people accustomed to a temperate climate but also upon the native population. It seemed then almost ridiculous to anticipate that these effects could be sensibly modified, that life in the zone could be made endurable for the foreigner, or that the native could be awakened from his traditional sloth and disregard of the first elements of the laws of hygiene. Yet in three short years all this has happened. Panama and Colon, from hot-beds of disease have been transformed into practically new cities, not only by the provision of complete waterworks and sewerage systems, an efficient system of quarantine, the reconstruction or widening of many thoroughfares, and the paving of every street with stone or brick, but also by the now willing coöperation of their people in furthering the designs of the masterful American. The older hospitals have been enlarged and modernised, and wherever required new ones have been erected and properly equipped. At every important point along the canal line water and sewer systems have been installed, and nothing has been left undone to impress both native and immigrant employee with a sense of the dominant Power's appreciation of the value of life and health. The arrangements for the housing and feeding of the army of workers, white and coloured, on the canal and railroad leave little to be desired, and—a matter too often neglected in enterprises involving the employment of a large labour force—every possible encouragement is given by the Commission to the promotion of healthy social life.

The first result of all this care to which attention should be directed is the fact that for two years there has been no case of yellow fever on the isthmus, the last case having occurred in Colon in May, 1906. Yet yellow fever continues to be present in all the countries around the zone with which the latter has commercial relations. Bubonic plague is also prevalent on the Pacific coast, both north and south of the isthmus, but no case has occurred in the zone since 1905. Here we have abundant proof of the virtues of quarantine and a fairly substantial assurance that, thanks to pure water and to the vigilance of the sanitary corps, yellow fever has been practically stamped out in Panama and Colon. Even more interesting, however, is the record in respect of malaria. Of the deaths in 1907 among the workers on the canal line only 4·57 per 1000 can be attributed to diseases ordinarily known as tropical, among which, of course, is included malaria in its various forms. There were admitted to the hospitals last year, when the labour force averaged over 39,000, 16,753 cases of malaria, as compared with 21,739 cases in 1906, when the average force was but 26,000, indicating that in one year malaria had been reduced just 50 per cent. It is also worthy of note, as showing a greatly increased resisting power among the blacks, that whereas in 1906 the death-rate from malaria was approximately among the whites 2 per 1000 and among the blacks 8 per 1000, the same rates in 1907 were respectively 3 and 4 per 1000.

Other interesting data, all evidencing improved health conditions, resulting from more perfect sanitary and hygienic organisation, will be found in the following table:—

	1907.	1906.
Average number of employees of all grades (Canal Commission and Panama Railroad)	39,343	—
Deaths	1,132	—
Annual death-rate per 1000	28·77	41·24
Average number of white employees	10,709	—
Deaths	179	—
Annual death-rate per 1000	16·71	16·27
Average number of American white employee	4,300	—
Deaths	42	—
Annual death-rate per 1000	9·76	—
Deaths from disease	29	—
Death-rate from disease per 1000	6·74	—
Average number of negro employees	28,634	—
Deaths	953	—
Annual death-rate per 1000	33·28	49·01
Women and children in Commission quarters	1,367	—
Deaths	9	—
Death-rate per 1000	6·73	—
Average number of sick employees per day	987	—
Rate per 1000	25	—
Deaths from dysentery	48	69
Deaths from malaria	154	233
Deaths from pneumonia	328	421
General population of the Canal Zone, including Panama and Colon	102,000	66,000
Annual death-rate per 1000	33·63	49·1
Deaths from malaria	568	712
Deaths from dysentery	116	190
Deaths from pneumonia	681	720
Deaths from beri-beri	53	68

The records of the first three months of the current year are even more satisfactory and indicate a marked improvement as compared with the corresponding periods of 1907. Indeed, they provide the most favourable reports which the Health Department has been able to make. The death-rates for the whole population of the Canal Zone are especially noteworthy and compare favourably with those of many European and American cities, while the statistics having relation to the canal and railroad labour force indicate that the mortality among the latter is less than one-third what it was two years ago.

Referring particularly to the figures for March, it will be seen that the death-rate among employees was only about one-fourth what it was a year ago, the improvement (10·80, against 48·50 per 1000) being especially marked in the case of the negro workers. Taking special diseases and comparing the same months, the statistics are no less satisfactory. For example, in March of this year the deaths from malarial fever were nine, from pneumonia five, from tuberculosis three, and from typhoid fever one, as against, in March, 1907, 16, 53, 12, and nine respectively. This year there were admitted to the hospitals among the employees 533 malaria cases as against 1576, and the general sick-rate fell from 22·97 to 18·23 per 1000. It is also noteworthy that, although the weather conditions this year have been abnormally favourable to the development of

Anopheles the average weekly malarial sick-rate in the Canal Zone has been less than one-third of that during the three months ended March 31st, 1907. Records show that there is usually less malaria in May than in any other month of the year, yet the malarial rate for March last was about one-half that of the preceding May.

—	1908.			1907.		
	Jan.	Feb.	Mar.	Jan.	Feb.	Mar.
Number of employees of all grades	43,390	44,039	43,276	31,551	36,304	36,337
Deaths...	46	47	45	68	93	122
Annual death-rate per 1000	12·72	12·80	12·47	25·62	30·74	40·23
Number of white employees	11,496	11,729	—	8,303	8,504	—
Deaths	11	7	—	9	10	—
Annual death-rate per 1000	11·48	7·12	—	13·01	14·11	—
Number of black employees	31,894	32,250	31,102	23,548	27,800	27,214
Deaths	35	40	28	59	83	110
Annual death-rate per 1000	13·16	14·88	10·80	30·06	35·83	48·50
Population of city of Panama	35,666	—	—	30,459	—	—
Deaths	112	—	81	105	—	—
Annual death-rate per 1000	37·68	—	—	41·93	—	—
Population of Colon	15,273	—	—	13,596	—	—
Deaths	36	—	28	53	—	—
Annual death-rate per 1000	28·35	—	—	46·78	—	—
Population of Canal Zone (outside cities)	61,121	—	—	45,039	—	—
Deaths...	99	—	—	103	—	—
Annual death-rate per 1000	19·43	—	—	27·41	—	—
Total population of Canal Zone	112,032	113,269	114,920	89,174	94,494	95,421
Deaths...	230	202	198	261	276	257
Annual death-rate 1000	24·66	21·40	20·67	35·12	35·07	32·32

When Colonel Gorgas in 1904 entered upon his duties as head of the Health Department he fully recognised the importance and difficulties of the task set before him. Yet at the same time he quite frankly acknowledged that the political conditions ruling in the Canal Zone and the quite exceptional powers secured to the United States authorities for putting into force far-reaching sanitary rules and regulations could not fail to be most valuable auxiliaries to himself and his medical coadjutors. Among the latter, also, he found many men who, like himself, had had large experience of tropical people, diseases, and sanitation; and he well knew that, whatever efforts might be made to thwart his endeavours or impugn his methods, there would be no inclination on the part of those highest in authority to dispute his judgment. Reviewing these advantages, he very candidly confessed that the service of which he was the head "ought to be able to get up a model sanitary department." He set out to create this and, if success be measured by results, has most assuredly achieved his purpose.

Therefore, while claiming for the medical and sanitary staffs on the isthmus a maximum measure of credit for cleansing the country and thereby maintaining in the highest state of efficiency the army of canal and railroad workers, I regard it as a bare act of justice to record my conviction that without loyal support from headquarters much of the success would have been impossible. President Roosevelt has, at every stage of the enterprise, reiterated the sentiments expressed in his letter to the Secretary of War on May 9th, 1904, and Mr. Taft, as administrative head of the canal, has never faltered in his allegiance to them. As recently as Jan. 16th last Mr. Taft attended a meeting of the Senate Committee on Inter-Oceanic Canals, and in reply to some heckling on the subject of the cost of sanitation declared that the Government had in this matter adopted and followed a fixed policy—that of acting on the advice of the Isthmian medical staff. "The Government did not care," he said, "to assume the responsibility of acting contrary to the views of the doctors." "Moreover," he added, "Dr. Gorgas has proved so uniformly successful that we have felt fully justified in taking his advice in such matters. ...... The Spanish war has taught us and all the world how to live in the tropics."

In the lap of the gods rests the future of the Panama Canal enterprise. Whether it prove the great engineering triumph and commercial highway to which many of us look forward with confidence time alone will show; but of one credit history can never rob the United States. Among much good and evil it must record that it was under American administration that the knowledge and resources of modern science were applied to the hygienic redemption of the once noisome isthmus. Such fruits of labour in this direction have already been gathered that they promise to rival as a worthy monument of American achievement even the canal itself.

THE DIFFICULTIES UNDER THE MIDWIVES ACT.

If the full benefit is to be derived from the Midwives Act when it comes into plenary force in 1910 the various associations for the supply of midwifery nurses will have to be prepared with some definite scheme to place before the Privy Council and the Local Government Board, the two authorities which are responsible for carrying out the provisions of the Act. Until a scheme satisfactory to all concerned is definitely adopted it cannot be expected that either the Government or the public will do much towards supplying the funds which will be needed. Real efforts are being made to overcome the difficulties which hitherto have threatened to stand in the way of carrying out the full powers which the Act admits, and it is possible that coöperation between the different workers may result in some satisfactory proposals.

At a meeting of the Cottage Benefit Nursing Association held at Denison House, Vauxhall Bridge-road, London, on May 20th, under the presidency of Lord Ancaster, Mrs. Charles Hobhouse, referring to what was likely to take place when the Midwives Act came into full force in 1910, said she thought it was important that all voluntary associations should unite and ask the Government for one particular line of policy. With this object it was proposed to hold in July a meeting in London of the different associations throughout the country. Miss B. M. Broadwood, honorary secretary and director of the Cottage Benefit Nursing Association, said that in starting the association she was advised of the undesirability of introducing certificated midwives into the country who might be tempted to take the place of medical men. On the other hand, it was clear that there were large districts where medical men made no attempt to practise midwifery among the very poor. In such districts there could be no objection to midwives being employed. She suggested that branches of the Cottage Benefit Nursing Association should adopt the distinct rule that a midwife should only be supplied to a labourer earning not more than 15*s.* a week and that a charge of 15*s.* 6*d.* should be made to include two weeks of service after the child was born. The service of a medical man should be retained in every case at a fee of 5*s.* 6*d.* prepaid by a branch of the association. If it were necessary that the medical man should be called in by the midwife a further fee of 15*s.* 6*d.* should be paid. She added that there was a great danger in turning loose upon the community women with the qualification of midwife who were not absolutely going to practise in some definite post. She thought that it would be useful if medical men would send their opinions on these subjects to the office of the Cottage Benefit Nursing Association.

Another sign of the prevailing desire that the provisions of the Act shall be utilised to the fullest advantage is a letter which has been sent to the chairmen and clerks of county councils signed by Lord Goschen, chairman of council, Queen Victoria's Jubilee Institute of Nurses, 120, Victoria-street, London, S.W.; Mrs. Agnes Mabel Bruce, chairman of executive committee, Association for Promoting the Training and Supply of Midwives, Dacre House, Dean

Farrar-street, London, S.W.; Mrs. Josephine Heywood Johnstone, chairman of executive committee, Rural Midwives' Association, 47, Victoria-street, London, S.W.; Miss Alice Gregory, honorary secretary of the Home for Mothers and Babies, Wood-street, Woolwich; and Miss J. Wilson, president of the Midwives' Institute, 12, Buckingham-street, London, W.C. As will be seen by the document which follows the representatives of the different bodies unite in thinking that a local rate is the obvious way in which the expenses of providing midwives in accordance with the Act can be met:—

> We are aware that in many parts of the country grants are made for training local women, and that admirable voluntary organisations are at work; but so far no official or concerted action has been taken to insure that midwives will be within the reach of mothers in remote and sparsely populated districts where no voluntary organisation exists, where the number of births cannot afford a maintenance to a midwife, and which suffer from the further disadvantage of being far from medical aid. There is no doubt from information in our possession that in many areas the year 1910 will bring great difficulty unless prompt action is taken. In view of the vital importance of midwives to the greater number of mothers of the working class, and of the responsibility, as local supervising authority, already placed by the Act upon county councils, we venture to ask whether steps could be taken to obtain Parliamentary power to incur expenditure, when necessary, to insure a due provision of midwives in each county in coöperation with, or supplementary to, existing nursing and other associations. In making this suggestion we are fully aware (1) of the danger of pauperising the poorer classes by the provision of assistance for which they ought to be responsible; (2) that there exists already a very large amount of voluntary effort and organisation which should be encouraged to the utmost. The fact remains, however, that such organisation is by no means universal; and many rural districts are and will be entirely unprovided with trained women unless there is a central body in each county with power to act in case of necessity. As the local authority appointed by the Act, we respectfully, therefore, urge upon your council the consideration of the questions we have raised, and of whether such expenditure should fall upon the local rate, or be in the form of an Exchequer grant, made on need shown by the council for such assistance. Such a grant could be applied for annually as occasion might demand, seeing that the necessity would, in many instances, be temporary, pending, for example, the working up of a practice of a midwife, or by the formation of a voluntary local organisation. We would point out that in many European countries this difficulty of remote districts is met very frequently by the payment to the midwife of a minimum wage by the State or by local authorities.

The letter does not take into account the difficulty caused by the midwife being obliged to call in medical men in certain circumstances, while there is no provision for the payment of medical fees. It seems to us that a conference of all interested in the subject would find excellent material for debate.

INTERNATIONAL CONGRESS ON TUBERCULOSIS AT WASHINGTON.

SEPT. 21ST TO OCT. 12TH, 1908.

WE have received the following complete list of the executive committee for Great Britain and Ireland in connexion with the Washington meeting:—Chairman: Sir William Selby Church, Bart., K.C.B., ex-President of the Royal College of Physicians of London. Vice-Chairman: William Osler, M.D., F.R.S., Regius professor of medicine in the University of Oxford. Honorary Treasurer: Theodore Dyke Acland, M.D., F.R.C.P., physician to St. Thomas's Hospital, consulting physician to Brompton Hospital for Consumption. England:—Sir Thomas Clifford Allbutt, K.C.B., Regius professor of physic in the University of Cambridge; German Sims Woodhead, M.D., F.R.S. Edin., professor of pathology in the University of Cambridge; Sir Felix Semon, K.C.V.O., M.D., F.R.C.P., physician extraordinary to His Majesty the King; H. Timbrell Bulstrode, M.D., medical inspector to the Local Government Board; W. Watson Cheyne, C.B., F.R.C.S., F.R.S., professor of clinical surgery, King's College; J. Kingston Fowler, M.D., F.R.C.P., visiting physician to King Edward VII. Sanatorium, consulting physician to Brompton Hospital for Consumption; Charles H. Garland, chairman of the National Association for the Provision of Sanatoria for Workers suffering from Tuberculosis; G. A. Heron, M.D., F.R.C.P., senior physician to the City of London Hospital for Diseases of the Chest; James Kerr, M.D., medical officer Education Office, London County Council; Percy Kidd, M.D., F.R.C.P., visiting physician to King Edward VII. Sanatorium, consulting physician to Brompton Hospital for Consumption; Arthur Latham, M.D., F.R.C.P., physician to St. George's Hospital, senior assistant physician to Brompton Hospital for Consumption; Arthur Newsholme, M.D., F.R.C.P., chief medical officer to the Local Government Board; Joseph John Perkins, M.B., F.R.C.P., physician to Brompton Hospital for Consumption, physician to outpatients, St. Thomas's Hospital (*honorary secretary*); J. Edward Squire, C.B., M.D., senior physician to Mount Vernon Hospital for Consumption; A. William West, chairman of St. George's Hospital; C. Theodore Williams, M.V.O., M.D., F.R.C.P., visiting physician to King Edward VII. Sanatorium, consulting physician to Brompton Hospital; Sir Isambard Owen, M.D., F.R.C.P., Vice-Chancellor of the University of Wales, Principal of Armstrong College; Sheridan Delépine, M.B., professor of pathology and bacteriology of Victoria University; I. Walker Hall, M.D., professor of pathology, University College, Bristol; E. W. Hope, M.D., medical officer of health of the city and port of Liverpool; Nathan Raw, M.D., F.R.C.S., F.R.S. Edin., member of the International Committee for the Prevention of Consumption; John Robertson, M.D., medical officer of health of the city of Birmingham; and John C. Thresh, M.D., medical officer of health to the Essex County Council. Wales:—William Williams, M.D., medical officer of health of the county of Glamorgan. Scotland:—The Rt. Hon. Sir Herbert Maxwell, Bart., F.R.S., chairman of council of the National Association for the Prevention of Consumption; Matthew Hay, M.D., medical officer of health of the burgh of Aberdeen, professor of forensic medicine and public health in the University of Aberdeen; J. Patten MacDougall, C.B., Vice-President of the Local Government Board for Scotland; Leslie Mackenzie, M.D., medical member of the Local Government Board for Scotland; D. J. Mackintosh, M.V.O., M.B., C.M., F.R.S. Edin., medical superintendent of the Western Infirmary, Glasgow; R. W. Philip, M.D., F.R.C.P., F.R.S. Edin., physician to the Royal Infirmary and Royal Victoria Hospital for Consumption, Edinburgh; Ralph Stockman, M.D., F.R.S. Edin., professor of materia medica and therapeutics in the University of Glasgow; and Charles Templeman, M.D., medical officer of health of Dundee. Ireland:—Her Excellency the Countess of Aberdeen (President); Sir John Byers, M.D., professor of midwifery, Queen's College, Belfast; Sir Robert Matheson, LL.D., Registrar-General for Ireland; Sir John William Moore, M.D., F.R.C.P.I., professor of medicine at the Royal College of Surgeons in Ireland; Sir William J. Thompson, M.D., F.R.C.P.I., physician in ordinary to the Lord Lieutenant of Ireland; A. E. Boyd, M.B., D.P.H., honorary secretary of the Dublin branch of the National Association for the Prevention of Consumption; A. E. Mettam, B.Sc., M.R.C.V.S., M.R.I.A., Principal of the Royal Veterinary College of Ireland; E. J. McWeeney, M.D., D.P.H., bacteriologist to the Local Government Board for Ireland, professor of pathology and bacteriology to the Catholic University, Dublin; T. J. Stafford, C.B., F.R.C.S.I., medical commissioner to the Local Government Board for Ireland; and P. J. O'Sullivan, M.D., professor of medical jurisprudence, Queen's College, Cork.

Our own country will also be officially represented in accordance with the invitation of the United States Government, and delegates and representatives will attend in large numbers from most, if not all, civilised countries. It is especially to be desired that Great Britain and Ireland should be worthily represented, partly because the Congress is being held in a country so near akin to our own and partly because of the foremost position among the great nations which we have always taken in sanitary advance and the diminution of tuberculosis. In addition to sending representatives it is hoped, therefore, that the various public bodies will contribute descriptive and statistical accounts (including charts, models, &c.) of their work in dealing with tuberculosis. In this connexion it should be added that the Congress will include a museum, in which such charts, models, &c., will find a place. Dr. J. J. Perkins, honorary secretary of the executive committee for Great Britain and Ireland, will be pleased to give further information to all who desire it.

The members of the Congress are of two classes: Active members, who pay a fee of 5 dollars and who receive, besides the ordinary privileges of membership, the full set of published transactions without extra charge; and associate members, who pay a fee of 2 dollars. Associate members do not receive the published transactions or vote in the Congress, but they receive the official badge, the printed matter distributed during the Congress and at the exhibition, and share in the entertainments, attend the meetings, clinics, demonstrations, &c., and have the benefit of special transportation and hotel rates. An itinerary of special excursions for members is being prepared.

The subscriptions should be forwarded, payable to Mr.

Henry Phipps, treasurer of the International Congress on Tuberculosis, to Dr. John S. Fulton, secretary-general, 714, Colorado Building, Washington, D.C., U.S.A.

MEDICINE AND THE LAW.

The Problem of Expert Testimony.

AT a meeting of medical men in Boston, U.S.A., recently the following motion was carried :—

> That this committee recommend to the various district societies of the State a plan by which physicians, when called to make examinations for the purpose of testifying in court, shall make that examination upon the basis of a professional consultation.

Such a plan has been adopted by Dr. F. W. Anthony of Massachusetts for several years with great success; it has, in practice, been approved both by bench and by bar. Those who favour original legislation to deal with the abuses of expert evidence allege, however, that one cannot deal with "shysters" upon this footing, or, possibly, it may be urged upon any other footing short of discrediting them; that lawyers will not forego the possibility of adducing biased testimony, unless, indeed, they are compelled so to do, as by the application of the "Anthony plan"; the last objection is that certain professional experts will not willingly fall in with the suggestion. In answer to the last objection it may be affirmed that any expert witness who declined to consult with colleagues in this sense prior to the forensic examination would have difficulty in persuading a jury of his *bona fides.* In the United States objection has been raised, only to be overruled, that such an admission cannot be extracted from an expert witness under examination. If the question has been propounded in the presence of the person examined, it is admitted as a part of what was said and done in that presence, and even if it is made to the physician himself it will be admitted as a question bearing upon his credibility and bias. Dr. Anthony claims that his plan deprives "the ambulance chaser" of his chief reliance, it adds to the self-respect of all physicians who testify in court, and chiefly it is the first step to the elevation of expert testimony, for the plan is as applicable in other lines as in that of medical testimony.

The London Parks as Sleeping Places.

Apparently there is a regulation for the benefit of those frequenting the London public parks under which authority is given to those in charge of them to prevent idle and disorderly persons from lying about on the grass and from occupying the seats. Relying upon this regulation a park constable on duty on Primrose Hill recently tried to induce a man, described as a labourer, who was lying on the grass, to move on, and was saluted by him with a volley of bad language in reply. The man was arrested and brought before Mr. Paul Taylor at Marylebone police-court, but apparently the learned magistrate was not in sympathy with the regulation or with the park constable's manner of enforcing it, although the defendant was described by the constable as a perfect pest to the park, continually lying about in it. Mr. Taylor was of opinion that lying about in the park did not prove him to be an idle and a disorderly person and suggested as a parallel that he himself might be arrested if he chose to rest on the grass in Hyde Park, where, as he said, no doubt with truth, many people habitually lie. He was of opinion that proof of uncleanliness was necessary and he dismissed the charge. We are not altogether in agreement with Mr. Taylor who suggested that there might be a danger lest the police should arrest or bring a criminal charge against respectable poor people going to the parks to enjoy the fresh air. The respectable poor, and, indeed, respectable people who are not to be classed as poor, together with their children, find their healthy enjoyment of the open and grassy spaces provided for their recreation and pleasure curtailed and interfered with by the presence of loafers and idlers of both sexes sprawling on the grass. These are in some cases filthy and verminous but not in all. Many of them are idlers who contrive to live well and to keep themselves a little above the condition to which rags are appropriate. Their wives work hard to support them or in other ways they pick up as much money as they require without any exertion on their own part. The police can be trusted to exercise discretion and to distinguish between disreputable loafers and citizens of the humbler class. The parks are not maintained as sleeping places for those who in summer make use of them in order to save the expense of beds in common lodging-houses and Salvation Army shelters.

Hypnotism as an Excuse for Crime.

To judge from the reports of French criminal trials which appear in the daily papers from time to time, accused persons in France are ready to put forward defences which are never heard of in this country. In a case reported on Monday last, a young man charged in the first instance with the murder of two persons admitted the fact but declared that at the time he was under the hypnotic influence of a certain medical man who often mesmerised him. "I had fallen asleep," he said, "when the spell came upon me, I fought against it but was compelled against my will to go to the Prince's house and strike at the Princess and her nephew." The medical man in question denies that he had exercised any influence in the matter. We do not know whether this defence is to be solemnly put forward in a court of justice; we can only say that it would meet with but short shrift before a judge and jury in this country. As English law now stands we imagine that a man might as well plead drunkenness as an excuse for his misdeeds as allege that he was acting under the hypnotic influence of a third party. The defence of insanity would be out of the question. It has long been the law that to establish a defence on the ground of insanity it must be clearly proved that at the time of the committing of the act the party accused was labouring under such a defect of reason from disease of the mind as not to know the nature and quality of the act which he was doing, or, if he did know it, that he did not know he was doing what was wrong. The accused has himself done his best to place his case outside this category by saying that he fought against the evil influence brought to bear upon him.

Assaults on Officials Discharging their Duties.

In two cases heard on the same day, the one at the Tower Bridge police-court and the other at the Thames police-court, serious assaults were proved to have been committed upon officials employed to enforce the law. In the first a perfumer named Albert Lowen had attacked a factory inspector named Davis who had called at the defendant's premises in Westminster Bridge-road with reference to his failure to put up an abstract as required by the Factory Acts. The defendant asked for proof of the inspector's authority and was shown it, but nevertheless attacked him savagely and threw him violently into the street, inflicting upon him injuries which delayed the hearing of the charge from March 12th until May 30th. The defendant's excuse was that he did not see what was on the parchment, and thought that Mr. Davis was an impostor, and witnesses on behalf of the defendant alleged that Mr. Davis had abused the defendant and behaved in an unjustifiable manner. Mr. Rose appears to have disbelieved these allegations, for he described the assault as an outrageous and aggravated one, inflicting a fine of £5 with the alternative of one month's imprisonment. In the other case referred to five persons—Aaron Selway, Harris and Annie Lupinsky, Esther Oheleboloff, and Ada Matznow were charged with harbouring smuggled saccharin and were ordered to pay fines ranging from £70 to £3, with alternatives of varying terms of imprisonment for that offence. It was shown, however, by the evidence that when the seizure of the saccharin took place and while a large quantity of it was being thrown out of window by some of the defendants Mr. J. H. Davies, a preventive inspector, was violently assaulted, and Mr. A. W. Cope, a supervisor who accompanied him, was threatened with a knife. In the circumstances described the fines inflicted in both cases seem scarcely to constitute sufficiently heavy punishment to act as a deterrent against similar assaults. Factory inspectors, sanitary inspectors, medical officers of health, and many others, besides officers connected with the collection of revenue of various kinds, are often compelled to visit the houses of strangers and to perform tasks which render them highly obnoxious to persons of a very rough class. They are not selected and trained with a view to their defending themselves against violence like police constables and often act without police assistance and they are entitled to a full measure of protection from the law. The foreigners, moreover, who are so frequently offenders against the laws which have to be enforced by the officials in question are usually quite well aware that they are breaking the law and know perfectly well from experience in their own countries that they ought not to resist lawfully constituted authority with violence. If those who represent the law, on the other hand, transgress their conduct can be complained of in the proper manner.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE ELECTION TO THE COUNCIL.

AS we have already announced, on Thursday, July 2nd, the Fellows of the College *will elect four Fellows to fill the* vacancies on the Council. Every year three members of Council retire and those due to retire this year are Mr. J. Ward Cousins, Mr. A. Pearce Gould, and Mr. W. Harrison Cripps. Mr. F. Howard Marsh has resigned two years before the termination of his period of office and therefore there will be four vacancies to be filled. Mr. Ward Cousins was first elected in 1895 as a substitute member, again as a substitute member in 1897, and again in 1900. Mr. Pearce Gould was elected in 1900 and is a candidate for re-election. Mr. Harrison Cripps was elected in 1905 as a substitute member, and he also will no doubt apply for re-appointment. Other candidates are Mr. W. Arbuthnot Lane, Mr. J. Lynn Thomas, Mr. George Eastes, and Mr. William Frederick Haslam. It is probable that Mr. C. B. Lockwood will also be a candidate. At the forthcoming election the successful candidate who receives the smallest number of votes will serve as substitute member for Mr. Howard Marsh and will retire in 1910. The following table gives the dates at which the several members of the *Council will retire.*

In 1909.—Mr. W. Watson Cheyne, first elected 1897.
Mr. A. W. Mayo Robson, first elected 1893.
Mr. R. Clement Lucas.
In 1910.—Mr. J. H. Morgan.
Mr. H. H. Clutton.
In 1911.—Mr. H. T. Butlin, first elected 1895.
Mr. Clinton C. Dent.
Mr. G. H. Makins.
In 1912.—Mr. F. S. Eve, first elected 1904.
Mr. A. A. Bowlby.
Mr. G. Barling.
In 1913.—Mr. Rickman J. Godlee, first elected 1897.
Mr. Edmund Owen, first elected 1897.
Mr. C. H. Golding-Bird.
In 1914.—Mr. H. Morris (President), first elected 1893.
Mr. F. Richardson Cross, first elected 1898.
Mr. G. A. Wright.
In 1915.—Mr. C. W. Mansell Moullin, first elected 1902.
Mr. W. Bruce Clarke.
Mr. Charters J. Symonds.

BRITISH MEDICAL BENEVOLENT FUND.

AT the May meeting of the committee 22 cases were considered and grants amounting to £156 were made to 17 of the applicants. A vacant annuity was filled by the election of an approved candidate. Appended is an abstract of the cases relieved:—

Widow, aged 64 years, of L.F.P.S. Glasg. Since husband's death, after a long illness, about a year ago, applicant has endeavoured to support herself by letting lodgings. No children. Voted £5, with leave to apply again in six months if necessary.

Widow, aged 57 years, of L.F.P.S. Glasg. Left quite unprovided for at husband's death about 10 years ago. Nine children who do all that is possible. Relieved nine times, £125. Voted £5.

Daughter, aged 37 years, of late M.D. Glasg. Is a daily companion to an invalid lady, but earnings are insufficient for her own maintenance and a little help she is obliged to give her mother. Relieved four times, £22. Voted £5.

Daughter, aged 66 years, of late M.R.C.S. Has supported herself for many years but is now dependent on relations and is a candidate for the Epsom pension. Voted £5.

M.R.C.S., aged 67 years. Is incapacitated by hemiplegia and dependent on a son whose earnings are small. Voted £5.

M.R.C.S., L.S.A., aged 68 years. For some time past has been quite incapacitated by paralysis and heart disease. Eight children, of whom only three are entirely self-supporting. Has a small pension from a board of guardians but it is quite inadequate for unavoidable expenses. Relieved six times, £90. Voted £12.

Daughter, aged 76 years, of late M.R.C.S. Has a small annuity and hopes shortly to be elected to a U.K.B.A. pension, but requires a little help meantime. Relieved once, £12. Voted £5.

Daughter, aged 52 years, of late M.R.C.S., L.S.A. No income and regular work impossible owing to bad health. Relieved twice, £20. Voted £10.

Daughters, aged 47 and 45 years, of late M.R.C.S., L.R.C.P. No income; endeavour to support themselves by letting lodgings in the summer and by knitting in the winter. Relieved eight times, £37. Voted £12.

Daughter, aged 66 years, of late M.D. No income and only able to obtain occasional employment. Relieved ten times, £91. Voted £12.

Widow, aged 43 years, of L.R.C.P., L.R.C.S. Edin. Quite unprovided for at husband's death several years ago and is in extremely bad health. Is assisted by the Ladies' Working Guild. Children unable to help. Relieved 13 times, £148. Voted £12.

Daughter, aged 51 years, of late L.R.C.P. Edin. No income. Is a great sufferer from rheumatic gout and dependent for a home on two unmarried sisters who have to earn their own living. Relieved three times, £26. Voted £10.

Widow, aged 51 years, of L.R.C.P.I. No income and has not yet recovered from the effects of a very serious operation. Relieved once, £12. Voted £12.

Daughter, aged 51 years, of late M.D. Lond. Income £20 a year from the Home for Incurables. Has had a serious illness during the winter and in consequence lost a lodger and is in arrears with rent. Relieved nine times, £81. Voted £10.

Widow, aged 67 years, of M.D. Edin. Children unable to help and is dependent on this fund and a little assistance given locally. Relieved four times, £42. Voted £15.

Widow, aged 61 years, of L.R.C.P., L.R.C.S. Edin. Has a small pension from a City company, but it is insufficient for bare necessities and children are unable to help. Relieved once, £6. Voted £6.

Wife, aged 43 years, of L.R.C.P., L.R.C.S. Edin., who is confined in an asylum. No income; dependent on a sum collected locally and now nearly exhausted, and earns a few shillings a week by fancy work. Two children, aged 15 and 12 years. Relieved once, £15. Voted £15.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 5th, 1830.

NON-APPOINTMENT OF SURGEONS TO TRADING VESSELS.

To the Editor of THE LANCET.

SIR,—To me it has often been a subject of surprise, that among the many laws which are enacted by our legislature, none has ever compelled merchant-vessels of a certain tonnage, and having on board a certain number of men, to carry a surgeon. Such a defect in our maritime laws becomes still more singular, when we call to mind the high mercantile character of the British nation, and the consequent necessity for protecting the health and lives of those employed in it. That a medical man ought to be numbered amongst the crew of all large ships bound to distant parts, is what the public have a right to expect; it is what the seamen, their relatives, and their friends, have a right to demand; but that a south-seaman in particular, bound on a whaling voyage, should be allowed to sail from a British port without any medical officer on board, is a deep stain upon the humanity for which England has ever been renowned. It is true a still heavier blame, amounting to criminality, is attached to the South-sea ship-owners individually, but experience teaches us we are not to depend upon the generous and benevolent feelings which ought to actuate those whom the labour of many poor men enriches. Such *feelings are too* often absent. A close and lengthened application to a profitable business, frequently strips the heart of all that is noble, and renders it sensible to little but self-interest.

Whalers are generally from two to three years away from England, and no class of vessels, whether merchantmen or men-of-war, can, in time of peace, be exposed to one half the danger to which they are exposed. The crews are liable to every variety of malignant disease arising from vicissitude of climate; they are liable to innumerable accidents in the dangerous and frequently fatal employment of whaling; they are mostly in the habit of touching and refreshing at savage islands, where no medical attendance can be procured; they are, in fact, during these long, tedious, and hazardous voyages, separated from the *civilized world*, having but little communication with any, save with the semi-barbarous natives of the South-sea islands.

These, Sir, I think, are forcible arguments in favour of an act of parliament, obliging all vessels, but more especially whalers, whose complement of men consists of—say twenty and upwards, to carry a surgeon. This would not be imposing an unjust tax on *poor* merchants, as all who can fit out ships on whaling expeditions, must necessarily be considerable capitalists, and possess ample means of employing medical men. In short, humanity towards our sailors, the prop and support of the British nation, loudly calls upon those who have it in their power, to enact such a law.

I am, Sir, your obedient servant,
G. E. LANGTON.
Camberwell, May 26, 1830.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8915 births and 3917 deaths were registered during the week ending May 30th. The annual rate of mortality in these towns, which had declined in the four preceding weeks from 15·7 to 13·2 per 1000, further fell to 12·6 in the week under notice. During the first nine weeks of the current quarter the annual death-rate in these towns averaged only 14·6 per 1000, and in London during the same period the rate did not exceed 14·3. The lowest annual death-rates in the 76 towns during the week under notice were 4·5 in Hornsey, 5·6 in Willesden, 5·8 in East Ham, and 6·6 in Leyton and in Halifax; the rates in the other towns ranged upwards to 20·1 in Oldham, 20·3 in Burnley, 20·4 in Stockport, 20·9 in Merthyr Tydfil, and 21·5 in Wigan. The death-rate in London during the week did not exceed 11·7. The 3917 deaths in the 76 towns during the week showed a further decline of 180 from the numbers returned in the four preceding weeks, and included but 288 which were referred to the principal epidemic diseases, against numbers declining from 445 during the eight preceding weeks; of these 288 deaths, 75 resulted from whooping-cough, 72 from measles, 47 from diarrhœa, 39 from scarlet fever, 36 from diphtheria, and 19 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to an annual rate of 0·9 per 1000, which was considerably below the rate in any previous week of this year; the rate from these diseases in London did not exceed 0·7 per 1000. No death from any of these epidemic diseases was registered last week in Leicester, Willesden, Blackburn, Walthamstow, or in 14 other smaller towns; the annual death-rates from these diseases ranged upwards, however, to 2·5 in West Ham and in Burnley, 2·7 in Merthyr Tydfil, 3·0 in Middlesbrough, and 3·1 in Aston Manor. The fatal cases of whooping-cough in the 76 towns, which had been 121 and 114 in the two preceding weeks, further declined to 75 in the week under notice; this disease caused the highest death-rates, 1·5 in Burnley, 1·6 in Rotherham, and 2·7 in Merthyr Tydfil. The 72 deaths from measles also showed a considerable further decline from recent weekly numbers, but caused death-rates equal to 1·5 in Stockport and in Wallasey, 1·7 in West Ham, and 1·8 in Preston. The 47 deaths attributed to diarrhœa showed a slight increase, and were proportionally most numerous in St. Helens and Middlesbrough. The 39 fatal cases of scarlet fever showed a further small increase upon recent weekly numbers, and included 13 in London and its suburban districts, six in Liverpool, six in Manchester and Salford, and two in Leeds and in Reading. Of the 36 deaths from diphtheria, also showing an increase, 11 occurred in London and two in Bristol, in Portsmouth, in Aston Manor, in Derby, and in Gateshead. Two of the 19 deaths from "fever" were recorded in Newcastle-on-Tyne. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had declined from 2938 to 2802 in the four preceding weeks, had further fallen to 2753 on May 30th; 334 new cases were admitted to these hospitals during the week under notice, against 380 and 330 in the two preceding weeks. The deaths in London referred to pneumonia and to other diseases of the respiratory organs, which had steadily declined in the five preceding weeks from 301 to 194, further fell to 147 during the week under notice, and were 51 below the corrected average number in the corresponding week of the five years 1903–07. Only eight deaths were directly referred to influenza in London, showing a marked decline from recent weekly numbers. The causes of 34, or 0·9 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Leeds, Manchester and Salford, Bristol, West Ham, Bradford, and in 47 other smaller towns; five uncertified causes of death were, however, registered in Birmingham and King's Norton, three in St. Helens, and three in Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·3 and 15·4 per 1000 in the two preceding weeks, further rose slightly to 15·5 in the week ending May 30th. During the first nine weeks of the current quarter the annual death-rate in these eight towns averaged 17·4 per 1000, and exceeded by no less than 2·8 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 12·3 and 12·7 in Aberdeen and Dundee to 17·8 in Perth and 17·9 in Leith. The 546 deaths in the eight towns (against 541 and 542 in the two preceding weeks) included 54 which were referred to the principal epidemic diseases, showing a slight increase upon the low numbers returned in the two preceding weeks; of these 54 deaths, 17 resulted from diarrhœa, 16 from measles, 13 from whooping-cough, five from diphtheria, two from "fever," and one from scarlet fever, but not one from small-pox. These 54 deaths were equal to an annual rate of 1·5 per 1000, the mean rate from the same diseases in the 76 English towns during the same week not exceeding 0·9. The 17 deaths attributed to diarrhœa in the Scotch towns exceeded the numbers in recent weeks and included eight in Glasgow and three in Dundee and in Aberdeen. The 16 fatal cases of measles also exceeded the number in the previous week; seven were returned in Glasgow, five in Edinburgh, and two both in Paisley and in Leith. Of the 13 deaths from whooping-cough, also showing an increase, eight occurred in Glasgow, two in Aberdeen, and two in Paisley. Of the five fatal cases of diphtheria, also exceeding the low numbers in recent weeks, three occurred in Glasgow and two in Leith. The two deaths from "fever," both certified as due to cerebro-spinal meningitis, were returned in Glasgow; the deaths from this disease in the eight towns were fewer than in any recent week. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 119, 79, and 77 in the three preceding weeks, rose to 85 in the week under notice, and exceeded by two the number returned in the corresponding week of last year. The causes of 16, or 3·0 per cent., of the deaths in these eight towns during the week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death in the same week was 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·0 and 22·2 per 1000 in the two preceding weeks, declined to 15·9 in the week ending May 30th, and was considerably lower than in any previous week of this year. During the first nine weeks of the current quarter the death-rate in Dublin averaged 21·9 per 1000; the mean rate during the same period did not exceed 14·3 in London and 15·9 in Edinburgh. The 120 deaths of Dublin residents registered during the week under notice showed a decline of 48 from the number returned in the previous week and included six which were referred to the principal epidemic diseases, against six and four in the two preceding weeks. These six deaths were equal to an annual rate of 0·8 per 1000, the rate during the week from the same diseases being 0·7 in London and 0·9 in Edinburgh. Of the six deaths from these epidemic diseases in Dublin, three resulted from diarrhœa, two from diphtheria, and one from measles, but not one from scarlet fever, whooping-cough, "fever," or small-pox. The 120 deaths from all causes in the city during the week under notice included 20 of infants under one year of age and 36 of persons aged upwards of 60 years; the deaths of elderly persons were considerably fewer than in any previous week of this year. Five inquest cases and four deaths from violence were registered, and 53, or 44·1 per cent., of the deaths occurred in public institutions. The causes of all but one of the deaths during the week were duly certified. The causes of all but one of the 1073 deaths in London were also duly certified, but more than 5 per cent. of the causes of death in Edinburgh were uncertified.

THE R.A.M.C. CAMP AT BULFORD.—The R.A.M.C. camp of instruction was formed at Bulford on June 1st, the officers and men being drawn from the out-stations of the Southern Command. Ten officers and 182 non-commissioned officers and men are under canvas.

resist lawfully constituted authority with violence. If those who represent the law, on the other hand, transgress their conduct can be complained of in the proper manner.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE ELECTION TO THE COUNCIL.

AS we have already announced, on Thursday, July 2nd, the Fellows of the College will elect four Fellows to fill the vacancies on the Council. Every year three members of Council retire and those due to retire this year are Mr. J. Ward Cousins, Mr. A. Pearce Gould, and Mr. W. Harrison Cripps. Mr. F. Howard Marsh has resigned two years before the termination of his period of office and therefore there will be four vacancies to be filled. Mr. Ward Cousins was first elected in 1895 as a substitute member, again as a substitute member in 1897, and again in 1900. Mr. Pearce Gould was elected in 1900 and is a candidate for re-election. Mr. Harrison Cripps was elected in 1905 as a substitute member, and he also will no doubt apply for re-appointment. Other candidates are Mr. W. Arbuthnot Lane, Mr. J. Lynn Thomas, Mr. George Eastes, and Mr. William Frederick Haslam. It is probable that Mr. C. B. Lockwood will also be a candidate. At the forthcoming election the successful candidate who receives the smallest number of votes will serve as substitute member for Mr. Howard Marsh and will retire in 1910. The following table gives the dates at which the several members of the Council will retire.

In 1909.—Mr. W. Watson Cheyne, first elected 1897.
Mr. A. W. Mayo Robson, first elected 1893.
Mr. R. Clement Lucas.
In 1910.—Mr. J. H. Morgan.
Mr. H. H. Clutton.
In 1911.—Mr. H. T. Butlin, first elected 1895.
Mr. Clinton C. Dent.
Mr. G. H. Makins.
In 1912.—Mr. F. S. Eve, first elected 1904.
Mr. A. A. Bowlby.
Mr. G. Barling.
In 1913.—Mr. Rickman J. Godlee, first elected 1897.
Mr. Edmund Owen, first elected 1897.
Mr. C. H. Golding-Bird.
In 1914.—Mr. H. Morris (President), first elected 1893.
Mr. F. Richardson Cross, first elected 1898.
Mr. G. A. Wright.
In 1915.—Mr. C. W. Mansell Moullin, first elected 1902.
Mr. W. Bruce Clarke.
Mr. Charters J. Symonds.

BRITISH MEDICAL BENEVOLENT FUND.

AT the May meeting of the committee 22 cases were considered and grants amounting to £156 were made to 17 of the applicants. A vacant annuity was filled by the election of an approved candidate. Appended is an abstract of the cases relieved:—

Widow, aged 64 years, of L.F.P.S. Glasg. Since husband's death, after a long illness, about a year ago, applicant has endeavoured to support herself by letting lodgings. No children. Voted £5, with leave to apply again in six months if necessary.

Widow, aged 57 years, of L.F.P.S. Glasg. Left quite unprovided for at husband's death about 10 years ago. Nine children who do all that is possible. Relieved nine times, £125. Voted £5.

Daughter, aged 37 years, of late M.D. Glasg. Is a daily companion to an invalid lady, but earnings are insufficient for her own maintenance and a little help she is obliged to give her mother. Relieved four times, £22. Voted £5.

Daughter, aged 66 years, of late M.R.C.S. Has supported herself for many years but is now dependent on relations and is a candidate for the Epsom pension. Voted £5.

M.R.C.S., aged 67 years. Is incapacitated by hemiplegia and dependent on a son whose earnings are small. Voted £5.

M.R.C.S., L.S.A., aged 68 years. For some time past has been quite incapacitated by paralysis and heart disease. Eight children, of whom only three are entirely self-supporting. Has a small pension from a board of guardians but it is quite inadequate for unavoidable expenses. Relieved six times, £90. Voted £12.

Daughter, aged 76 years, of late M.R.C.S. Has a small annuity and hopes shortly to be elected to a U.K.B.A. pension, but requires a little help meantime. Relieved once, £12. Voted £5.

Daughter, aged 52 years, of late M.R.C.S., L.S.A. No income and regular work impossible owing to bad health. Relieved twice, £22. Voted £10.

Daughters, aged 47 and 45 years, of late M.R.C.S., L.R.C.P. No income; endeavour to support themselves by letting lodgings in the summer and by knitting in the winter. Relieved eight times, £37. Voted £12.

Daughter, aged 66 years, of late M.D. No income and only able to obtain occasional employment. Relieved ten times, £91. Voted £12.

Widow, aged 43 years, of L.R.C.P., L.R.C.S. Edin. Quite unprovided for at husband's death several years ago and is in extremely bad health. Is assisted by the Ladies' Working Guild. Children unable to help. Relieved 13 times, £148. Voted £12.

Daughter, aged 51 years, of late L.R.C.P. Edin. No income. Is a great sufferer from rheumatic gout and dependent for a home on two unmarried sisters who have to earn their own living. Relieved three times, £26. Voted £10.

Widow, aged 51 years, of L.R.C.P.I. No income and has not yet recovered from the effects of a very serious operation. Relieved once, £12. Voted £12.

Daughter, aged 51 years, of late M.D. Lond. Income £20 a year from the Home for Incurables. Has had a serious illness during the winter and in consequence lost a lodger and is in arrears with rent. Relieved nine times, £81. Voted £10.

Widow, aged 67 years, of M.D. Edin. Children unable to help and is dependent on this fund and a little assistance given locally. Relieved four times, £42. Voted £15.

Widow, aged 61 years, of L.R.C.P., L.R.C.S. Edin. Has a small pension from a City company, but it is insufficient for bare necessities and children are unable to help. Relieved once, £6. Voted £6.

Wife, aged 43 years, of L.R.C.P., L.R.C.S. Edin., who is confined in an asylum. No income; dependent on a sum collected locally and now nearly exhausted, and earns a few shillings a week by fancy work. Two children, aged 15 and 12 years. Relieved once, £15. Voted £15.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 5th, 1830.

NON-APPOINTMENT OF SURGEONS TO TRADING VESSELS.

To the Editor of THE LANCET.

SIR,—To me it has often been a subject of surprise, that among the many laws which are enacted by our legislature, none has ever compelled merchant-vessels of a certain tonnage, and having on board a certain number of men, to carry a surgeon. Such a defect in our maritime laws becomes still more singular, when we call to mind the high mercantile character of the British nation, and the consequent necessity for protecting the health and lives of those *employed* in it. That a medical man *ought* to be numbered amongst the crew of all large ships bound to distant parts, is what the public have a right to expect; it is what the seamen, their relatives, and their friends, have a right to demand; but that a south-seaman in particular, bound on a whaling voyage, should be allowed to sail from a British port without any medical officer on board, is a deep stain upon the humanity for which England has ever been renowned. It is true a still heavier blame, amounting to criminality, is attached to the South-sea ship-owners individually, but experience teaches us we are not to depend upon the generous and benevolent *feelings* which ought to actuate those whom the labour of many poor men enriches. Such feelings are too often absent. A close and lengthened application to a profitable business, frequently strips the heart of all that is noble, and renders it sensible to little but self-interest.

Whalers are generally from two to three years away from England, and no class of vessels, whether merchantmen or men-of-war, can, in time of peace, be exposed to one half the danger to which they are exposed. The crews are liable to every variety of malignant disease arising from vicissitude of climate; they are liable to innumerable accidents in the dangerous and frequently fatal employment of whaling; they are mostly in the habit of touching and refreshing at savage islands, where no medical attendance can be procured; they are, in fact, during these long, tedious, and hazardous voyages, separated from the civilized world, having but little communication with any, save with the semi-barbarous natives of the South-sea islands.

These, Sir, I think, are forcible arguments in favour of an act of parliament, obliging all vessels, but more especially whalers, whose complement of men consists of—say twenty and upwards, to carry a surgeon. This would not be imposing an unjust tax on *poor* merchants, as all who can fit out ships on whaling expeditions, must necessarily be considerable capitalists, and possess ample means of employing medical men. In short, humanity towards our sailors, the quantity and but little advance in our knowledge will be gained by its use. If the vaccines can be given by this method it will be a great point gained, though one cannot but fear that under the varying conditions of alimentary absorption accuracy of dosage will be impossible to attain. But, at any rate, let us decide first of all by the simple means at our disposal whether they are absorbed or not.

I am, Sir, yours faithfully,

Devonshire-street, W., May 27th, 1908. CLIVE RIVIERE.

CONVEYANCE OF THE INFECTION OF CHICKEN-POX BY A THIRD PERSON.

To the Editor of THE LANCET.

SIR,—The possibility that chicken-pox may be conveyed by a third person, who is not suffering from the disease, is shown by the following case. I was called in on March 12th last to see a single woman, aged 30 years, suffering from the effects of an attack of influenza, which she was said to have had about a month previously. On March 14th symptoms of jaundice presented themselves and she remained in bed, isolated from the rest of the family except for her parents. The following Monday, March 16th, acute toxæmic jaundice supervened and the patient was placed in charge of two trained nurses, her parents seeing her occasionally only. The following Saturday I saw a young girl living in the house, whom I found to be suffering from a mild attack of chicken-pox, contracted at a day school. The attack was a very mild one and I ordered frequent disinfectant baths, at the same time taking care to isolate as far as possible my other patient by cutting all communication with the sick room, except for the parents, to whom I gave directions accordingly. On April 8th the elder patient, who so far had been progressing favourably and was recovering from her original illness, became suddenly worse, being delirious, her temperature, which had been subnormal (97·2° F.), rising to 99·8° and her pulse to 130 and higher. She remained in this condition for 48 hours and on April 10th a dense chicken-pox rash appeared, covering her thickly from head to foot, many of the spots rapidly becoming pustular and then breaking down into large ulcers, some one-third of an inch across, and penetrating into the subcutaneous tissues. The patient's condition remained critical for another 48 hours and then slowly began to mend, becoming convalescent by the end of the month. No other case of chicken-pox occurred in the house.

The infection in this case was evidently conveyed by some person who did not have the disease, probably by the parents, neither of whom ever showed any trace of the disease, both having had it many years before. The two patients with chicken-pox had not been in contact since March 13th and the elder had not been outside her bedroom for four weeks previously to the rash appearing in her case.

I am, Sir, yours faithfully,

May 30th, 1908. ERNEST F. TRAVERS, M.D. Lond.

THE SPIROGRAPH.

To the Editor of THE LANCET.

SIR,—Two weeks ago a criticism of my book on "Diagnosis in Diseases of the Throat, Nose, and Ear" appeared in THE LANCET. In that criticism it is stated that the spirograph attributed to Wingrave was invented by Sandemann many years ago. Such is not the case. Sandemann employed a square of cardboard sprinkled over with powdered slate or similar material. It was a lamentable failure. Wingrave's device is described in my book. It is a perfect success. The first qualification for a critic, especially a critic attached to THE LANCET, is a sound knowledge of his subject. Otherwise criticism becomes presumption.

I am, Sir, yours faithfully,

Stratford-place, W., May 21st, 1908. DAN. MCKENZIE.

To the Editor of THE LANCET.

SIR,—Thank you for allowing me to see the courteous strictures of Dr. McKenzie. I take the liberty of pointing out in reply that Sandmann's method was described in a paper read in Berlin in 1893, perhaps a little too early for Dr. McKenzie to know much about it; that "powdered slate" was not used; that Sandmann's method gave a *permanent* record; and that the temporary method advocated by Dr. McKenzie is precisely that first adopted by Sandmann. (The paper is published in the *Journal of Laryngology*, February, 1894.)—I am, Sir, yours faithfully,

May 27th, 1908. THE REVIEWER.

"THE OLDEST INSTITUTION FOR TREATING SICK CHILDREN."

To the Editor of THE LANCET.

SIR,—A copy of the *British Press* (price 7*d.*) for Monday, April 29th, 1816, has recently come into the possession of the board of governors. It contains a two-column report of the foundation meeting of the hospital held at the City of London Tavern on the previous Saturday, at which T.R.H. the Dukes of Kent and Sussex were present, with the Lord Mayor, the Sheriffs, and a numerous company of ladies and gentlemen. The two former were the first subscribers of £20 each and the latter £10 each. The institution thus created was named "The Royal Universal Infirmary for Children," and after several variations of name, and one change of site, but in unbroken succession, it is now known as the Royal Waterloo Hospital for Children and Women, and so has been continuously at work for more than 90 years.

I am, Sir, yours faithfully,

J. HOUSTON,

Organising Secretary of the Special Appeal Committee of the Royal Waterloo Hospital.

THE GRÆCO-ROMAN BRANCH OF THE EGYPT EXPLORATION FUND.

To the Editor of THE LANCET.

SIR,—Will you kindly permit me the haven of your correspondence column to advocate the claims of what is known as the "Græco Roman Branch of the Egypt Exploration Fund." This fund is for the purpose of recovering ancient papyri from the sands of Egypt by means of excavations upon the sites of the old Greek and Roman cities there. And the number of fragments of classic medical works already discovered, including the priceless manuscript of the Hippocratic treatise, "The Iatrica of Menon," is quite considerable. The reports of municipal medical officers and particulars of taxes and imposts for medical purposes found from time to time are most interesting. Further medical manuscripts will almost certainly be procured, but the society is, unfortunately, inactive temporarily for want of funds. A subscription of 21*s.* or upwards entitles donors to the annual volume and will help this most deserving society.

I am, Sir, yours faithfully,

Bedford Park, W., May 26th, 1908. JOSEPH OFFORD.

PS.—The Fund's address is 37, Great Russell-street, Bloomsbury, London, W.C.

THE FIRST INTERNATIONAL CONGRESS ON LARYNGOLOGY AND RHINOLOGY.

(FROM OUR VIENNA CORRESPONDENT.)

(*Concluded from p. 1445.*)

Diagnostic and Therapeutic Applications of the X Rays.

Professor BURGER (Amsterdam) read a paper on the Value of the X Rays in Rhino-Laryngology. He said that this method had many advantages in certain branches of medicine. It enabled the ossification of the bones to be studied; it showed the mechanism of singing, speaking, and deglutition; and it clearly displayed the position of foreign bodies in the œsophagus and the bronchi. It was not possible to obtain with the x rays the same good results as with direct œsophago-bronchoscopy, but the use of the x rays was much easier and did not require so much special experience. The rays had little value for the differential diagnosis of neoplasmata but the diagnosis of diseases of the accessory sinuses of the nose, especially when used in the sagittal direction, was much helped by them, for they enabled an opinion to be formed as to the condition of the maxillary, the sphenoidal, and the frontal sinuses. Instruments might be used in these sinuses under the guidance of the rays. Electric transillumination gave better results in disease of the maxillary antrum and the x rays in disease

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: J. Bradley to the *Ocean*, on recommissioning; G. H. Foott to the *Victorious*; A. M. Page to the *London*. Staff-Surgeons: T. W. Philip to the *Russell*, on recommissioning; J. W. W. Stanton to the *Illustrious*, on recommissioning; H. Spicer to the *Repulse*. Surgeons: F. Cock to the *Russell*, on recommissioning; M. T. Male to the *Mars*, on recommissioning; B. S. Robson to the *Spanker*, on completing; and D. H. Vickery to the *Illustrious*, on recommissioning.

ARMY MEDICAL SERVICE.

The transfer from the Supernumerary List of Colonel W. Babtie, V.C., C.M.G., bears date May 13th, 1908.

ROYAL ARMY MEDICAL CORPS.

Lieutenant James C. L. Hingston is confirmed in that rank.

Captain F. M. Parry, from the London District, has been appointed to the Eastern Command from August 1st. Captain L. V. Thurston, on return from leave, has been posted to Jubbulpore for duty.

"LORD ROBERTS'S BOYS."

The report by the executive committee to the council of the City of London Schoolboys' Shooting Club for 1906–07 is an interesting little pamphlet giving an account of the work done by the boys in camp and embellished with a reproduction of a photograph of the Astor Cup team at Bisley (1907) and a coloured picture of the headquarters hut for the "Lord Roberts's Boys" at Bisley, 1908. The report states that the 1907 season was a most successful one. Facilities have now been provided in the City of London for drill and rifle shooting for all schoolboys and each school possesses its school cadet corps. "All we now require," says the committee, "is permission from the Board of Education to draft instructors to school premises once or twice a week, at convenient times, for drill of a military type."

THE ALLOCATION OF OFFICERS' CABINS.

An important circular letter has been issued by the Admiralty relating to improved rules with regard to cabin *accommodation for officers on board ships of war. In future* a captain is to allow every officer to occupy a cabin allotted according to his rank, and special cabins will be given to medical officers amongst others, the selection being made with special reference to official duties.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF PULMONARY TUBERCULOSIS BY A POSTURAL METHOD,

ENCOURAGING DRAINAGE OF THE LUNG AND INDUCING ARTIFICIAL HYPERÆMIA OF THE APEX.

To the Editor of THE LANCET.

SIR,—The favourable account which Dr. A. T. Tucker Wise is able to give of the *prone posture* in the treatment of phthisis will not be a surprise to those who may have tried it in patients suffering from other affections as well as for themselves in health. Its advantages are cardiac as well as respiratory. The weight of the heart being completely removed from the diaphragm and from the roots of the lungs the posterior lobes, particularly at the base, are allowed great freedom of expansion, and this in itself eases the circulation through the heart. In phthisis great value must attach to this cardio-pulmonary advantage, as I have found it a help in various conditions of lowered vitality. I first resorted to it some years ago for the treatment of rickets, but it was not until three years ago that I commenced the long-delayed construction of the "infant-rest" and of the "all fours exerciser,"[1] and subsequently of the "convalescent machine,"[2] which provides among many other uses the same facilities as the exerciser. These appliances, as stated in my paper on the "Empty Bronchus" Treatment by Posture in the Bronchiectasis of Children,[3] owing to their adaptability to a variety of purposes and of ages, are specially suitable for hospitals and institutions. Dr. Tucker Wise's prone couch has the advantage of greater simplicity and cheapness whilst answering the individual requirements of the case of phthisis.

The systematic employment of the *inclined prone posture* is, I believe, an entirely new departure in the treatment of pulmonary tuberculosis. Judging from Dr. Tucker Wise's experience it is likely to be a permanent addition to our therapeutical methods. My own previous use of that posture had been occasional only; and it was limited to an endeavour to empty the basic cavities of phthisis, and on the other hand to convey into the cavities at the apex injections introduced through the trachea, an attempt which has since then been much more efficiently made by Colin Campbell by means of his ingenious "revolving chair." At the same time, the *continuous drainage* of bronchiectatic cavities by the inclined prone posture was one of the special purposes for which the machines were devised and have been used. But Dr. Tucker Wise's method claims in addition to secure for the treatment of phthisis a *passive hyperæmia* of the apices. In that respect it is most up-to-date, as Bier's therapeutical method has now led to the invention of Kühn's "pulmonary suction-mask," the latest fruit of the suggestion contained in Rokitansky's original observation (1846) as to the comparative infrequency of tubercle in the congested lung of mitral disease.

The respiratory indications of the *pulmonary rest cure* are thoroughly fulfilled by Dr. Tucker Wise's prone couch which favours the function of the posterior lobes. I must own, however, that the *cardio-pulmonary exercise-cure with local rest for the apices* provided by the prone posture on the convalescent machine had been uppermost in my mind in connexion with the sanatorium purposes of the machine. It was in that manner that I began using it last year for phthisis at St. George's Hospital. The graduated exercise which it provides can be strictly limited at first to the lower limbs, as the patient wheels himself about by the action of the feet; and the exertion can be started at a very low minimum of effort, as in the prone posture the weight of the body is entirely carried by the machine. For those who share these views as to the treatment of *pulmonary disease* Dr. Tucker Wise's most practical appliance might easily be modified and mounted upon wheels so as to answer the purposes of exercise as well as those of rest.

I am, Sir, yours faithfully,
WILLIAM EWART.

May 31st, 1908.

THE ADMINISTRATION OF VACCINES BY THE MOUTH.

To the Editor of THE LANCET.

SIR,—At the discussion on May 26th at the Royal Society of Medicine of Dr. A. Latham's paper on the Administration of Vaccines by the Mouth much was said of horse serum, and but little attention paid to the main question at issue—the absorption or non-absorption of tuberculin (and other vaccines) from the alimentary canal. May I crave space to bring forward a point which the meeting overlooked and time did not allow me to develop—namely, the utter impossibility of testing this method of vaccine administration on such a disease as phthisis. In this disease, as we all know, auto-inoculation is continually going on and the opsonic index is continually fluctuating, and in such unstable conditions the effect of a dose of tuberculin is really impossible to follow. I cannot persuade myself that Dr. Latham's opsonic charts prove anything at all.

On the other hand, the absorption or non-absorption of tuberculin given by the mouth can be readily decided once and for all if a case of *localised* tuberculosis is chosen, and it is curious that this test has not been already applied. Given a stationary opsonic index, the effect (or non-effect) of tuberculin per os is definite and certain. If it is absorbed a "tuberculin curve" will result; if it is not absorbed the opsonic index will remain as before. Till this test has been applied the value of tuberculin by the mouth in phthisis must remain an unknown

---

[1] Constructed by Mr. S. Turner of 16, Eccleston-street, London, S.W.

[2] Constructed by Messrs. J. Ward, 246, Tottenham Court-road, W.C.

[3] Medical Press and Circular, May 20th, 1908.

The term "infected" ship is limited to a ship on which there is actually on board at the time of arrival a case of cholera or plague within seven days before arrival, or a case of yellow fever within 18 days before arrival. At the same time the term "suspected" ship is used as applying to a ship on which there has been a case of cholera or plague more than seven days before the arrival of the ship, or a case of yellow fever more than 18 days before arrival, whether the case has occurred in the port of departure or in another port in the course of the voyage, or at any time during the voyage, and on which no fresh case of cholera or plague has occurred within seven days, or of yellow fever within 18 days. New provisions have also been made prescribing the procedure to be followed with a view to prevent the transmission of plague by rats on board ship and the escape from the ship to shore of rats that may be infected with plague. With a view to obviate the first of these dangers rats are in all cases to be destroyed when the ship is infected with plague or when rats in the ship are infected with that disease. In the case of a ship which is not infected, but is a suspected ship by reason of plague, this procedure is not obligatory, except where the medical officer of health requires it to be followed. Epidemics of plague have long been known to be almost invariably associated with similar outbreaks among rats and other animals, but it has only recently been universally recognised that the rat plague precedes, and is chiefly responsible for, the spread of plague amongst human beings. Bubonic plague in man is entirely dependent on disease in the rat. The infection is conveyed from rat to rat and from rat to man solely by means of the rat flea. The reader of the paragraphs on the dangers of infection by means of rats must be at a loss to know why, in the case of a "suspected" ship by reason of plague, the destruction of rats is not obligatory also. The report states that during the year 1907 3169 rats have been examined by the corporation bacteriologist.

Munificent Donation to the Royal Infirmary.

The executors of the late Mr. Edward Robert Bickersteth (for many years surgeon to the Royal Infirmary and latterly consulting surgeon) have intimated to the committee their intention of forwarding a cheque for £10,000 as a gift from the late Mr. Bickersteth towards the fund for the erection of the new out-patient department at the Royal Infirmary in which he took such a deep interest.

St. Paul's Eye and Ear Hospital: The Prevention of Blindness in Children.

The annual meeting of the supporters of this charity was held at the town-hall on May 25th, the Lord Mayor (Dr. Richard Caton) presiding. The report showed that during the year 1907 7328 cases of diseases of the eye, 1720 cases of diseases of the ear, and 56 unclassed cases were treated. There were 775 in-patients treated. The number of operations amounted to 1167. In accordance with the recommendation of the British Medical Association an almoner ad been appointed who would check, it was hoped, ny abuse of the charity. Owing to the number of ccidents in the workshops at the docks caused by teel chips which penetrate the eyeball and unless emoved inevitably cause its total destruction, an electro-agnet was purchased at a cost of £56. This had been uccessful in extracting the steel in every case which had ome to the hospital since its purchase. The medical staff ad been impressed with the inadequacy of the usual ethods of treating ophthalmia in newly born infants, and ey had taken advantage of the new Notification of Births d Registration of Midwives Acts to enlist the help of the unicipal health authorities in an effort to prevent its astrous results. A ward had been given up to the work d arrangements had been made for the admission of other and infant immediately on the detection of the disease. was believed that St. Paul's Hospital was the first to make h an organised effort to cope with a disease which s estimated by the Royal Commission on the Blind in 1889 be the cause of blindness of 7000 people in the United ogdom and to cost £350,000 annually. Dr. Arthur Nimmo lker, the secretary of the medical board of the hospital, seconding the re-election of honorary officers and members he committee, described in detail the arrangements which been made in the hospital to combat purulent ophthalmia newly born infants and emphasised the importance of ing hold of the infants in the earliest stage of the ase.

ne 2nd.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Crippled Children's Union.

THE annual report of the Birmingham and District Crippled Children's Union, which was presented at the recent annual meeting of the subscribers, refers with pride to past well done work and with increasing hope to a future of greater opportunities. During the past year 297 children were sent to convalescent homes at a cost of £800 and there can be no doubt that the subscribers will cordially indorse the managers' opinion that the money could not be spent in a more productive way so far as lasting curative results are concerned. The number of new cases dealt with during the year was 251 and the total number of cases 1085. The only drawback to the record of work done was the fact that it had resulted in a monetary deficit of £51 and consequently the total deficit is now £93. The hopeful outlook is due to Mr. George Cadbury's gift of a house and grounds at Northfield, to be used as a convalescent and nursing home. In this new home the society looks forward to being able to give to cases of tuberculous disease of bone that perfect rest and fresh air which are such necessary and efficient curative agents. To get the best possible results out of Mr. Cadbury's splendid gift and to make suitable provision for about 70 patients, 24 of whom will be undergoing open-air treatment, it will be necessary to spend about £4680—£3680 for re-arrangement and £1000 for furniture and fittings. To meet this expense the society possesses a building fund of £2400, therefore it will be necessary to appeal to the public for the remaining £2280. There can be little doubt that this comparatively small sum will be forthcoming if the committee places its claim clearly before the public, for the object of the society appeals strongly to all classes.

The Clearing of the Slums.

The report of the housing committee to the city council shows that the work of improving the slum area is proceeding regularly and satisfactorily, though it may be, on account of difficulties, slowly. In about six years the medical officer of health has reported 4532 houses as unfit for human habitation; of these 1213 have been taken down, 1608 have been converted into habitable places, 35 have become workshops, 317 are under repair, and notices are outstanding on the remainder. The committee reports that closing orders are never applied for until negotiations have utterly failed and it is its desire to preserve as many cheap small houses as possible in the city for the convenience of the working people. A part of the committee's scheme of work which is perhaps the most valuable is that which deals with the conversion of closed courts into open terraces; this has been carried out to a comparatively limited extent, for only 90 courts have been opened up by the removal of 152 obstructing buildings; but the results have been so successful from the point of view of the health and habits of the occupants that this part of the scheme is to be extended. At present it is the intention of the committee to commence in the centre of the city and to work outwards towards the suburbs in all directions so that the results may become obvious from all sides. The work is so obviously advantageous to everyone that, as a rule, it has secured the support of the property owners affected and the cost to the city is lessened by taking the improvement of the value of the property into consideration in estimating the compensation which must be paid in certain cases. So far the cost has been £5047, and in the estimates for the current year £3500 are provided for the compensation which will probably be necessary in association with the more extensive plan of work.

The Birmingham Medical Benefit Society.

The annual report of this society shows a sound financial position and a record of helpful work which might be greatly increased if the members of the medical profession in the district would become members of the society in greater numbers. The objects of the society are to help poorer members of the profession and, in the event of their deaths, their widows and children. At present the society, according to the authority of Sir James Sawyer, has 400 members out of 4000 medical men of the district who are eligible; nevertheless, as Dr. E. M. Whitcombe, the President, pointed out, it possesses invested and other funds to the amount of £16,000 and it provided in grants last year the sum of £763.

of the frontal sinus. Enlargement of the sella turcica had been demonstrated with the rays in cases of acromegaly. Odontology owed much to them and diseases of the thorax were often elucidated by a good x ray photograph, especially if there were enlarged intrathoracic glands or an aneurysm causing compression of nerves or displacement of the heart or the trachea.

Professor KILLIAN (Freiburg) showed a series of fine X Ray Photographs in which the topography of the accessory sinuses could be studied at leisure. After explaining the method of taking these photographs he said that not only the size of a sinus but also its position, its relations to other parts of the head, and the condition of its mucous membrane could be learned from the photographs. The information obtainable in this way was especially valuable before the performance of an operation on the ethmoidal or frontal sinus. In taking those photographs Professor Killian always passed the rays in a sagittal direction so that both halves of the head were shown on the same plate. He used "soft" tubes and an exposure varying from one to three minutes.

Professor GRADENIGO (Turin) read a paper on the Therapeutic Value of the Rays and Radium in Diseases of the Upper Air Passages. In enumerating the advantages of this method of treatment he said that the resulting scars were very flat and little noticeable, while the treatment itself was not only painless but free from danger in experienced hands. The disadvantages were that little effect was produced in the depth of the tissues, that there was a possibility of the spread of malignant disease under a healthy looking scar, and that recurrence was frequent. Good results had been obtained in cases of lupus and epithelioma but not in sarcomata. Radium could be used in the interior of small cavities but in lupus of the mucous membranes of the nose and the mouth or larynx it was not so efficacious as in lupus of the skin.

Relations between the Nasal Sinuses and the Eye.

Professor KUHNT (Bonn) spoke on the Correlation between the *Anterior Accessory Nasal Sinus and the Eye* and drew attention to the existence of a sympathetic connexion between inflammations of the ethmoidal labyrinth and diseases of the lacrymal apparatus, such as dacryocystitis or conjunctivitis; panophthalmitis had also been observed as a sequel of acute empyema of the frontal sinus. It was necessary to be cautious in tracing a connexion between nasal conditions and symptoms dependent on diseases of the bulbar nerves, such as muscular paralysis or optic neuritis, because the pathological anatomy of those cases was not quite clear.

In the discussion following the paper Dr. RÉTHI (Vienna) said that in two cases under his care impending blindness was averted by clearing out the ethmoidal cells, after which rapid recovery of sight took place. Several reports from Professor Chiari's clinic also showed that recovery of sight had undoubtedly followed intranasal operations.

Malignant Disease of the Larynx.

Professor MOURE (Bordeaux) read a paper on the Operative Treatment of Malignant Disease of the Larynx. He advised the performance of a radical operation with simultaneous tracheotomy and was in favour of uniting the tracheal and laryngeal incisions into one large wound. In order to prevent pressure on the tracheal rings he had had a tracheal tube constructed in very thin aluminium, thus reducing pressure to a minimum.

Professor LENDZIAK (Warsaw) communicated a paper entitled "The Radical Procedure for Malignant Disease of the Larynx in the last 50 Years." The author not being present only an abstract of it was read. In a historical review which he gave of the positions of different surgeons in reference to this question he said that the first in this field was Billroth who in 1873 removed a carcinomatous larynx with good result, and since that date total or partial laryngectomies had been performed nearly every year. The general discussion on this subject at the International Congress held in London in 1887 promoted the knowledge of the surgical methods in a high degree. Endolaryngeal methods were chiefly advocated by Fränkel of Berlin, and in Sir Felix Semon's hands "laryngo-fissure" had given the most brilliant results—namely, 80 per cent. of recoveries lasting from four to eight years. Partial or total resection of the larynx had been chiefly practised in Germany, where von Bergmann and Gluck obtained recoveries which continued for periods of from five to 11 years. Professor Lendziak had studied the records of 1002 cases of carcinoma of the larynx occurring in all countries and operated on by all methods. He found that the results had improved considerably since 1888. Laryngo-fissure gave the best results (50 per cent. cures) if used early enough; recurrence was best prevented by total extirpation, whilst mortality was highest by the last-named method. Therefore laryngo-fissure was the safest method. As long as cancer was a local disease it could be cured by local measures.

Dr. IMHOFER (Prague) read a paper entitled

"*The Knowledge of Tuberculosis of the Larynx by the Ancient Greeks and Romans.*"

He showed that Hippocrates and Celsus distinguished this condition from others and used dietetic treatment. Galen was the first to recognise it as an ulcerating condition and ordered his patients to take certain liquids whilst lying on their backs, so as to allow of the liquid entering the larynx. It was interesting to note that Dr. Heryng of Warsaw quite recently rediscovered this method.

Professor JURASZ (Heidelberg) read a report entitled

International Laryngo-Rhinological Congresses.

This gave rise to a discussion on the advisability of holding another congress, and it was decided to form an international committee which should decide where and when the next congress should take place. Sir Felix Semon was selected to represent England on the committee which will consist of six members.

Dr. VOHSEN (Frankfort) described his method of transillumination of the accessory sinuses and demonstrated it practically on several persons. He advised it especially for the frontal sinus. The conditions necessary to success were the use of a very small instrument, good regulation of the light, absolute darkness of the room, and application on the floor of the sinus. It was essential to remember that previous inflammations left behind them thickenings or other changes of the mucous membranes, so that the definition of the pictures was somewhat altered by them. The transillumination of the antrum of Highmore also gave good results, but for differential diagnosis it was not quite safe as cysts or thickened walls might give the same appearances as accumulations of pus.

The time occupied by the reading of papers and the discussions having been longer than was expected a good many papers had to be mentioned only by their titles. As a social meeting the Congress was a complete success. Not only were the members invited to a banquet by the city of Vienna but even the Governor of Lower Austria, who represented the Protector (the Heir Apparent), held a grand reception in their honour. At the banquet given by the city the magnificence of the town hall was well displayed, whilst at the reception in the stately old renaissance palace of the Governor there was a brilliant assembly of scientific men, titled personages, diplomatists, and eminent State dignitaries. A special entertainment committee for the lady visitors was formed by the ladies of the general committee of the Congress, the items of their programme including a variety of excursions and theatrical performances. In connexion with the Congress there was an exhibition of objects relating to laryngo-rhinology, œsophagoscopy, and bronchoscopy. It included instruments for examination, operation, treatment, and illumination, as well as numerous manuscripts of historical value, books, anatomical and pathological preparations and illustrations which belonged to Türck and Czermak, the first laryngoscopes used by them, and the first collection of clinical pictures of laryngological cases. Many pictures and specimens from the Vienna Laryngological Clinic were also on view, while Dr. Onodi, Dr. Hennig, and many foreign physicians contributed numerous objects of interest.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Port Sanitary Authority: Annual Report of the Medical Officer of Health.

THE annual report of the medical officer of health to the port sanitary authority contains many interesting statements. The regulations for the examination of vessels arriving in England from foreign ports are very similar to those in force since 1896, with the exception that the definitions of the terms "infected" and "suspected" ship have been modified.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Aberdeen Royal Infirmary: Great Donation from Lord Mount-Stephen.

A SPECIAL meeting of the directors of the Aberdeen Royal Infirmary was held on May 29th. The chairman informed the board that he had received from New York a bank draft for £26,758 6*s.* 3*d.* sent to him by direction of Lord Mount-Stephen. In a letter dated May 27th his lordship explained that the above-mentioned amount was the proceeds of railway stock which he at first proposed to transfer to the Royal Infirmary as an addition to its investment fund. Lord Mount-Stephen proceeds to say: "Since I had the pleasure of seeing you in London and hearing what you had to say about the position of the infirmary I came to the conclusion that the best use that could be made of my gift was to spend it exclusively on the permanent improvement of the hospital, rather than in providing for an increase of income. What I mean by 'permanent improvement' is expressed by the directors in their last annual report where they state that 'the most urgent necessities of the hospital will require a sum of at least £25,000.' Let me say in conclusion that I should consider it but little short of a calamity, if what I have done for the hospital should have the effect of weakening the interest of the people of Aberdeen in the old infirmary in which I was a patient 63 years ago." The board expressed its feeling of most grateful appreciation of Lord Mount-Stephen's continued goodness to the infirmary, a feeling which the board was sure was shared not only by the citizens of Aberdeen but also by the whole population of the wide district benefited by the infirmary and it thanked his lordship cordially for his munificent and most opportune gift.

University of Edinburgh: Retirement of Professor Crum Brown.

For some time past it has been rumoured that Professor A. Crum Brown, professor of chemistry in the University of Edinburgh, proposed to retire from his University duties. The rumour has passed into accomplished fact, for his resignation has been accepted by the University Court. All the men who occupied the medical chairs in Edinburgh in the early "seventies" have now passed from them. Professor Crum-Brown was the only one remaining after Sir A. R. Simpson resigned. Sir William Turner is the only one who by becoming Principal on resigning his chair retained his University connexion. Professor Crum Brown has occupied the chair for 39 years. Coming early in the medical curriculum as chemistry does, it has been a very large class and a class that is a great strain on a teacher in many ways.

A New Chair.

An important step in the equipment of scientific education has been taken in the endowment and constitution of a chair of pathology and bacteriology in the Royal Veterinary College, Edinburgh. This has been made possible by the munificent gift of £15,000 by Mr. A. I. MacCallum, J.P., M.R.C.V.S., himself an old student of the College. At a recent meeting of the board of management Dr. Gerald R. Leighton, who has taught these subjects in the College for the past six years, was unanimously appointed to the chair. Dr. Leighton's best-known works deal with British reptiles from the field naturalist's point of view, but he has been a voluminous writer on many phases of animal life. He is M.D. of the University of Edinburgh and a Fellow of the Royal Society of Edinburgh.

The Inspection of Meat in Scotland.

For some time past the subject of the inspection of meat has been prominently before the public health authorities. Largely owing to the efforts made in the matter by the corporation of Glasgow an inquiry into the whole question of meat inspection in Scotland was ordered by the Local Government Board and conducted by its medical inspector, Dr. F. Dittmar. The result of this inquiry is embodied in a report just issued. In this it is stated that while cattle are generally killed in licensed slaughter-houses and are thus subject to a certain measure of inspection, it would appear that pigs destined to be cured for the production of ham and bacon are almost wholly killed at the place of feeding—*i.e.*, at farms, &c. The reason given by the trade for this custom is that "driven pork" does not cure well. The result is that these carcasses are not examined by the public health officials and any kind of diseased carcass may be dressed and cured and put on sale. A notable difference as to the prevalence of tuberculosis in pigs emerges in this report. In Glasgow during 1906 of 45,456 pigs slaughtered 3040, or 6·68 per cent., were found affected with tuberculosis. In Edinburgh, of 6175 slaughtered only one, or 0·016 per cent., was affected, while in Dundee only 0·60 per cent. were affected. The explanation given in Edinburgh and Dundee for this very striking difference is that pigs in the East of Scotland are fed only to a slight extent on milk or milk products, the food being mainly hotel or boarding-house scraps, while in the West of Scotland the pigs are said to be largely "dairy fed." Dr. Dittmar, however, finds it difficult to believe that the character of the food accounts for the great difference in the extent to which tuberculosis is present in pigs slaughtered in Glasgow, Edinburgh, and Dundee. He thinks there can be little doubt that difference in the method of examination practised in each abattoir will account to a large extent for the differences noted. As regards the methods of inspection the report states that in Edinburgh it appears to be efficient, but it goes on to say that in Glasgow the examination of each carcass, &c., is more searching and carried out in greater detail than in any other abattoir visited in Scotland. Dr. Dittmar then proceeds to suggest some points in which an improvement on existing conditions could be made. 1. Subject to certain exceptions it should be made illegal to slaughter any animal intended to be sold for human food in any but a duly licensed place. 2. The Local Government Board should be empowered to call upon burghal local authorities to provide public slaughter-houses, and that with a view to increasing the revenue of the slaughter-house, and thereby providing funds for more efficient management, in burghs of less than 6000 inhabitants no slaughter-houses other than public ones should be allowed within a radius of five miles of the burgh boundary; also, that where a slaughter-house is provided by a landward local authority all private slaughter-houses within a defined distance of the public one should cease to exist, and that power should be given to burghal and landward authorities to combine for the purpose of erecting a common slaughter-house. 3. That persons licensed and paid by the local authority should be appointed in landward districts whose duty it would be to kill animals intended to be sold for human food. 4. That meat inspectors and superintendents of slaughter-houses should possess certificates of competency in the work from some recognised examining body. 5. That recommendations for the guidance of meat inspectors in condemning carcasses might be issued. 6. That inspection by competent officers of all animals at the time and place of slaughter should be aimed at, that arrangements should be made whereby consignments of dead meat coming to a town should be inspected before being put on sale, and that the Government of this country should be satisfied of the thoroughness of inspection at the time and place of slaughter before meat is exported to this country. 7. That the Local Government Board should call for certain returns of the number of animals slaughtered yearly in public slaughter-houses.

The Medical Officership of Health of Edinburgh.

Owing to the retirement of Sir Henry D. Littlejohn the city of Edinburgh has to appoint a medical officer of health. There is already a rich field of candidates to select from—at least 12 well-known names are given. The salary is stated to be £800 per annum.

Clinical Research.

Through the medium of Dr. G. A. Gibson a gentleman, who meanwhile withholds his name, is desirous of establishing a laboratory for clinical research in connexion with the Edinburgh Royal Infirmary. A meeting of physicians to the infirmary has been called by Dr. Gibson to consider the matter and to see what steps it may be advisable to take and what form the scheme can take.

June 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Annual Meeting of the Royal College of Surgeons in Ireland.

THE annual general meeting of the Fellows of the Royal College of Surgeons in Ireland was held on May 30th. The annual report of the Council was received

Dr. H. Malet of Wolverhampton was made President for the ensuing year and Sir Thomas Chavasse was appointed President-elect.

A Result of Medical Inspection.

At a recent meeting of the Bilston education committee it was stated that it had been found necessary in some cases to follow up the inspection with nursing, and a motion was adopted requesting the urban district council to appoint a nurse jointly under the Notification of Births Act, 1907, and the Education Act, 1907.

Hospital Saturday Collections.

The annual collection was made in the various works of West Bromwich last Saturday and the total result reported on Monday last was £776. Last year the total was £933, and that amount may possibly be surpassed this year, for at the time stated several of the large works had not reported their contributions. The collection is made on behalf of the West Bromwich and District Hospital. At Oldbury the collection on Saturday reached the sum of £388, or £100 more than the amount at the same period last year.

Increased Birth-rates.

The fall of birth-rates is so common that it is interesting to note two increases in this district. At Yardley Dr. G. Wilson states in his annual report that the rate rose during the past year from 25·9 to 26·7 per 1000, and at Dudley Mr. J. H. Wilkinson reports that it increased from 29·73 to 31·34 per 1000. At Yardley during the same period the death-rate fell from 12·6 to 11·3 per 1000 and at Dudley it was 17·3 per 1000, a little more than in the previous year.

June 2nd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Sanatorium Treatment in Newport.

THE Newport (Mon.) board of guardians has for some time treated the consumptive patients under its care in a building which is quite distinct from the workhouse and the results have been very satisfactory. During the past few months the corporation has had under treatment at the isolation hospital persons of the non-pauper class suffering from pulmonary tuberculosis. A large wooden hut was erected in the grounds of the hospital at a total cost, including furniture, of £1000. There is accommodation for 14 patients but for the present it is being occupied by six, as it is anticipated that the maintenance of this number will absorb the £350 per annum which have been allocated for the purpose by the corporation. Patients are admitted for one month with the object of giving them the benefit of a training in the methods adopted in the open air treatment and of training them in respect to the precautions necessary to prevent them from infecting their friends and reinfecting themselves. No charge is made to the patients, who must, however, be necessarily residents in the town of Newport. The medical officer of health (Dr. J. Howard-Jones), upon whose recommendation the scheme was adopted, is hopeful that it will result not only in a reduction in the prevalence of the disease in the borough but will also place patients on the road to recovery.

A Clean Milk Supply.

At a sessional meeting of the Royal Sanitary Institute held at Shrewsbury on May 23rd a discussion upon the inspection of dairies and cowsheds was introduced by Mr. T. W. H. Garstang, medical officer of health of several rural districts in Cheshire. Dr. James Wheatley, medical officer of health of Shropshire, discussed the possibility of keeping cattle in the open air for the whole year and gave an interesting account of some experiments which have been made in recent years at the Harper-Adams Agricultural College in Shropshire with a view of ascertaining the effect upon cattle of leading a completely open-air life. Two lots of cows were selected as closely alike as possible. One lot was brought into the sheds each night commencing at the beginning of November, and the other lot was kept out until the beginning of December. Taking the average results the cows that were kept out all night gave more and richer milk and gained more in weight than those that were brought in. The results for the four years during which the experiments were conducted were decidedly in favour of leaving the animals out during the night. Observations made during very cold nights found the animals lying close to the homestead. No shelters were available, but the animals did not appear to seek shelter from the hedges. Dr. Wheatley expressed the opinion that these experiments entirely disposed of the tradition among farmers that warm and therefore ill-ventilated cowsheds were necessary for the free production of milk. The difficulties attending the application of this open-air system were pointed out by the Principal of the Harper-Adams College; they were difficulties of management and ought not to be insuperable. The principal drawback was the irregular distribution of the manure. The cows left it for the most part in the sheltered spots, around hedges and near gateways. The surface of the land, too, in a wet season became trodden down, to the detriment of the herbage in the following summer. If these difficulties could be overcome the problem of a clean milk-supply would be very nearly solved.

The Midwives Act at Cardiff.

At a meeting of the Cardiff health committee held on May 26th, the medical officer of health reported upon the alleged negligence of a midwife. It was decided to report the case to the Central Midwives Board and on the suggestion of the chairman, Mr. J. Robinson, it was decided that a medical man should give brief lectures once weekly on the subject of midwifery for the benefit of those midwives who were registered but had not passed any examinations.

Bristol Poor-law Infirmary.

The attention of the Bristol board of guardians has once more been drawn to the unsatisfactory arrangements that are made for the sick and old or infirm paupers at the Eastville workhouse. In a report by Mr. E. B. Wethered, one of the Poor-law inspectors of the Local Government Board, the danger in the event of fire of still using wooden huts for the accommodation of patients is very forcibly pointed out. There are two such huts, each containing 40 beds, occupied by men, and two with 20 beds in each for women. There are many helpless persons in these buildings the retention of which throws a very great responsibility upon the board of guardians. For more than ten years the question of providing adequate accommodation at this workhouse has been under discussion and a few years ago plans for suitable buildings were actually prepared and approved, but chiefly on the score of expense the work was not proceeded with. A policy of inaction is now being advocated by a majority of the members of the board of guardians, first of all on the plea that the report of the Royal Commission on the Poor Laws may recommend drastic changes in their administration, and, secondly, on account of the adoption by the Government of the principle of old-age pensions. In the meantime the principal officials at the Eastville workhouse must be having a very anxious time.

Bristol and West of England University.

The near prospect of securing a University for Bristol and the West of England being now assured it is proposed to endow a chair of Anatomy in the new University to perpetuate the memory of the late Dr. Edward Markham Skerritt who for several years rendered distinguished services to the Faculty of Medicine of University College, Bristol, both as dean and professor of medicine. An appeal has been issued for subscriptions, which may be sent to the treasurer, Markham Skerritt Memorial Fund, Faculty of Medicine, University College, Bristol.

University College, Bristol.

The Council of University College, Bristol, has appointed Mr. Cyril Hutchinson Walker, B.A., M.B. Cantab., F.R.C.S. Eng., ophthalmic surgeon to the Bristol General Hospital, to the post of additional lecturer on ophthalmology in the Faculty of Medicine of the College.

A Medical County Councillor.

Mr. Rees Thomas Edward Davies, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., J.P., was on May 25th elected representative for Bedwellty West on the Monmouthshire county council.

June 2nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Administration of Antidysenteric Vaccines by the Mouth.

AT the Biological Society on May 16th M. Dopter recorded some experiments on the vaccination of fully grown mice by feeding them with bacilli of dysentery of the Shiga type, both living and dead. For this purpose he weighed out 0·005 milligramme of these bacilli, obtained by scraping an agar culture in a Roux's chamber, and having killed them by submitting them to a temperature of 60° C. for an hour he dried them in a vacuum. He made an emulsion of the bacilli in milk and fed the mice with them for three days running and this process was found to confer immunity. The subcutaneous inoculation of one or even two ordinarily fatal doses of living bacilli in the animals thus treated from 12 to 15 days afterwards did not kill them, whilst control animals died in three or four days. His experiments showed that one single ingestion of this dose is insufficient to bring about immunisation, and that it is only conferred with weaker doses when they are repeated daily for a week. The immunity is not complete until about the end of 12 days and it usually lasts for a month. From the first to the twelfth days, whilst the state of immunisation is in process of development, a "negative phase" is induced, and the animal is more sensitive than the control mice to an ordinary fatal dose. Similar results were obtained with living bacilli; with these the optimum dose corresponds to the amount of emulsion obtained by scraping the culture from one agar tube after 24 hours' growth, and this dose should be repeated in a few days.

Syphilis and Myopia.

M. Antonelli has communicated a paper on this subject at a meeting of the French Ophthalmological Society. He said that syphilis may be the sole cause of myopia, it may aggravate it, or it may complicate it. The first proposition is illustrated by congenital syphilis, for a number of persons afflicted with that malady are myopic from early childhood or become so as the result of such disorders as interstitial keratitis. This congenital, or at least infantile, myopia of the subjects of hereditary syphilis is sometimes monocular; it is often unequal in the two eyes and may occur in combination with dystrophies of the ocular membranes and lesions of the fundus. Acquired syphilis shows itself rather by aggravating and complicating myopia in patients who already have it more or less strongly marked and who are in a state of general bad health. With regard to the complications there is no doubt that myopic eyes are predisposed to the later manifestations of syphilis. Chorio-retinitis with damage to the papilla, macular or intra-vitreous hæmorrhages, exudative troubles of the vitreous, and retinal detachment occur most frequently in myopes of old standing, who have become tainted with syphilis, and it is easier to prevent these complications by energetic and prolonged mercurial treatment than it is to cure them.

The Re-education of the Muscles in the Treatment of Different Palsies.

The general term of muscular re-education covers a series of very different procedures which must not be confounded with each other. The treatment of ataxia, paraplegia, hemiplegia, and spasmodic paralysis requires different methods for each. Passive movement and the long-continued training in voluntary movements combined in various manners have given rise to several methods, of which certain ones, such as the treatment of ataxia, are widely known and appreciated. M. Faure brought the question before the Medical Society of Paris on May 8th and pointed out that others, such as the treatment of spasmodic palsies, are less generally recognised. The educative treatment of hemiplegia gives appreciable results, but less striking than when it was applied to cases of ataxia. These methods demand the expenditure of much time and patience and must be carried out with the utmost precision.

The Thermic Effects of High-frequency Currents on the Body.

At the Academy of Sciences on May 11th M. Zimmern and M. Turchini dealt with this subject. Tracings of arterial blood pressure made on the dog show that this pressure is not affected by high-frequency currents. In man it sometimes produces a slight drop of one or two centimetres, but volumetric variations of the pulse, which indicate vaso-dilatation, are more frequent results. An animal under the influence of these currents shows a rise of temperature of several tenths of a degree. Dogs whose temperature is falling progressively under the action of chloral show a similar increase which depends upon the calorific effects of the current, and the dog seeks to counteract these effects by rapid breathing. In the same way a man whose temperature has been thus raised several tenths of a degree attempts to counteract the access of heat by peripheral vaso-dilatation. The increase in temperature is not always sufficient to induce sweating. It would thus seem that high-frequency currents fulfil a want in affording a method of increasing the body heat without expense to the organism, and in this way they form a new procedure in thermo-therapy, more gentle than those already in use but with similar indications for employment. Indirectly, by the vaso-dilatation which it causes, it is a useful adjuvant in dealing with renal congestion and visceral neuralgia, and this action explains the good effects which it has upon the obscure pains experienced in Bright's disease and arterio-sclerosis.

Tuberculous Rheumatism.

At a meeting of the Paris Medical Society held on May 23rd Professor Antonin Poncet, in resuming a discussion on Tuberculous Rheumatism, described investigations which he had made on this condition and on inflammatory tuberculosis. M. Dupuy de Frenelle recommended general treatment for the tuberculosis; hyperæmia, *effleurage*, and massage for the limb; and very cautious movement alternating with periods of rest for the joint. He did not think that the effects produced by ankylosing tuberculous rheumatism were so obstinate and so difficult to treat as Professor Poncet supposed.

Diagnosis of Cancer by a Specific Reaction with Micrococcus Neoformans.

M. Doyen, in a communication to the Biological Society, has stated that the blood serum of cancerous people contains specific bodies which possess a selective action upon an extract of powdered tumour cells and micrococcus neoformans and upon young cultures of that organism which results in fixation of the complement or in agglutination. The diagnosis of obscure cases of cancer may perhaps be best determined by a combination of three investigations—namely, the power of fixation of the complement, of agglutination, and the determination of the opsonic index.

June 2nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

International Conference on Cancer.

ON the occasion of the opening of the Cancer Institute in Heidelberg in October, 1906, an International Conference on Cancer was held in that city and in Frankfort. The success of that conference has induced the committees of different States to found an International Union for Cancer Research which met for the first time in Berlin on May 23rd under the presidency of Professor von Leyden. 13 States were represented, including Germany, Austria, Hungary, France, Russia, Denmark, the United States, and Japan, but England was not represented. The seat of the union will be Berlin. The aim of the union is to support institutions for cancer research and treatment; to compile international statistics concerning cancer; to establish an international bureau for the coördination of cancer research, and to edit an international journal on cancer. Professor von Leyden was elected honorary president, Professor Czerny of Heidelberg president, and Professor Marie of Paris and Professor Fibiger of Copenhagen vice-presidents. The third vice-president will be an American, to be elected by the American national committee. Professor Hansemann of Berlin will act as treasurer and Professor Meyer of Berlin as general secretary. The other members of the committee are Professor Podwyssowski of St. Petersburg, Professor von Hochenegg of Vienna, and Professor Golgi of Pavia. The first meeting of the union was held in the great lecture hall of the Pathological Institute; representatives were present of the Government, the University, the Army and Navy Medical Corps, and of the Medical Association of Berlin. Addresses of welcome were delivered by the Minister of Public Instruction, the Rector of the University, and by and adopted unanimously, after which a discussion took place on the Irish Universities Bill in regard to its effect on the future of the College. The opinions arrived at are well set out in the following motion, which was proposed by Sir Charles A. Cameron, C.B., ex-President, professor of chemistry and of hygiene (and historian) of the Royal College of Surgeons in Ireland; seconded by Mr. J. S. McArdle, ex-President of the Irish Medical Association and professor of surgery, Catholic University Medical School; and unanimously carried by the meeting:—

> That this College, while in no way desiring to interfere in the question of University education, views with alarm the consequence to the College which will be brought about by the establishment, under the Irish Universities Bill now in Parliament, of a State-endowed medical school in connexion with the proposed new University in Dublin, for it is to be anticipated that serious damage and loss will result to the unendowed school of this College and, therefore, to the Royal College itself, from that State-aided competition.
>
> That it is contrary not only to justice and fair-play, but also to the public interest, that this College, established by Royal Charter, and its school, which for a century and a quarter have done great and important work for the State and the country, and which, if permitted, would be competent to continue that valuable work, should be crushed.
>
> That the College approves of the steps taken by the Council to bring its claim for a Government grant for its school to the notice of the Chief Secretary, and it hereby expresses its belief in the justice of that claim, and presses it on the favourable consideration of the Government.

Sir Lambert H. Ormsby supported the motion, recalling that the crisis had now arrived in the history of the College, of which he had foreshadowed the possibility in his own presidential address at the corresponding annual meeting of June, 1904, and spoke with conviction as to the danger to the medical school attached to the College, and in due course to the College itself, which had conferred, he said, "such lasting benefit on the general public by insuring that every year highly educated and fully qualified Fellows and Licentiates received their diplomas to practise surgery in Ireland and different parts of the world, while during the long period of its existence as a licensing body its paramount aim had been high culture and efficiency, unbiassed by political or sectarian influence of any kind." Mr. John Lentaigne, now President of the College, dwelt eloquently, as a Roman Catholic, on the religious liberality displayed by the College; and the audience were distinctly impressed with the fact that the issue ahead of the College is a very serious one.

The Election of Officers at the Royal College of Surgeons in Ireland.

The annual election of President, Vice-President, Council, and secretary of the Royal College of Surgeons in Ireland was held on Monday, June 1st. For the presidency, vice-presidency, and secretaryship the election was in each case unopposed, but the contest for seats on the Council was actively carried out. A total number of 268 votes was recorded; three were returned by too-late posts and five were "spoilt in the making." The following were elected and I have appended the number of votes recorded for each:—(President, John Lentaigne; Vice-President, Robert H. Woods; secretary, Sir Charles A. Cameron) Sir Henry R. Swanzy, 229; William Stoker, 162; Sir Charles Cameron, 238; Sir Lambert Hepenstal Ormsby, 180; Richard D. Purefoy, 190; Henry Gregg Sherlock, 185; Sir Charles B. Ball, 204; John B. Story, 208; Edgar D. Flinn, 161; Sir Thomas Myles, 216; Sir Arthur Chance, 210; Richard Lane Joynt, 176; R. Bolton McCausland, 168; Thomas E. Gordon, 175; Edward Henry Taylor, 201; G. Jameson Johnston, 176; William Taylor, 193; R. Charles B. Maunsell, 175; and William Ireland Wheeler, 195. Two members of the past year's Council have lost their seats, Dr. Thomas Donnelly, the active secretary of the Irish Medical Association, and Mr. J. S. McArdle, who has announced his candidature in the usual official way for the vice-presidency of the College in 1910–1912. Mr. J. B. Story has done the same.

Cerebro-spinal Meningitis.

Several cases of "spotted fever" have occurred in the Lurgan district. Two deaths have taken place in the Lurgan workhouse fever hospital within the week ended May 27th.

The Report of the Belfast Health Commission.

At a meeting of the Belfast water commissioners held on May 28th reference was made to the difficulty experienced in obtaining copies of the report of the Belfast Health Commission. It appears that the Local Government Board thought it right to issue the report in the first instance to the corporation of Belfast and to allow an interval to elapse before sending copies to the press. These copies were despatched on April 24th and on that date a copy was also forwarded to the secretary of the water commissioners. The chief clerk of the corporation has since sent three copies. As the question of the water-supply was specially under consideration, and as £2000 were spent by the commissioners in getting up evidence, naturally they are annoyed that they cannot—even by paying for it—procure a copy of the report, and as one of them said at the meeting, "How otherwise could the commissioners be in a position to comply with the recommendations made." In reply to a question in the House of Commons on May 28th the Chief Secretary said that 250 copies of the report were printed at the expense of the Belfast corporation and of these the Local Government Board had 150, nearly all of which had been distributed amongst public bodies and interested parties. The corporation has declined to incur the expense of printing additional copies and the Chief Secretary had no power to compel it to do so. As, however, the Chief Secretary said the report is of general interest he would lay it on the table at an early date.

Consumption in Belfast.

The Local Government Board has approved of an arrangement by which, as proposed by the Belfast city council, ten further beds in the Forster Green Hospital will be allocated for the use of consumptive patients nominated by the public health committee of the corporation.

The Irish Medical Association.

The annual general meeting and conference of this association will be opened in the Royal College of Surgeons, Dublin, on June 10th. The annual dinner will take place on the same evening, and on the next day the President-elect (Sir William J. Smyly) will give a garden party in the Zoological Gardens, Phœnix Park. The third day (Friday) is to be devoted to an excursion at Glendalough. From the sixty-ninth annual report, to be presented, it appears that on Dec. 31st last the association consisted of 726 members. Financially, the income received, with the balance in hand at the close of last account, amounted to £782 and the expenditure to £730, leaving a credit balance of £51.

British Dental Association.

The British Dental Association is to visit Belfast for its annual meeting at Whitsuntide from June 6th to 9th. The opening meeting is to be held on Saturday, June 6th, in Queen's College, Belfast, when an address will be given by the President, Mr. J. J. Andrew, L.D.S., of Belfast. On the previous evening a popular lecture on the Teeth of the People: a National Asset, will be given in the Technical Institute by Mr. L. Matheson, L.D.S., of London, and on Saturday night the annual dinner will be held in the Grand Central Hotel, Belfast.

Bovine Tuberculosis in Belfast.

At a meeting of the Belfast corporation held on June 1st a report was given by the city veterinary surgeon to the effect that of 3452 milch cows examined only one had been affected with tuberculosis, and that of 27,446 cattle slaughtered in the Belfast abattoir in 1908 only 384 were found to be tuberculous, or 1 in 70. Mr. Councillor Gregg, M.R.C.V.S., a member of the public health committee, immediately challenged these figures, and said that until the tuberculin test had been applied it could not be definitely said that cows examined were free from tuberculosis. Mr. Gregg, who is also the honorary secretary of the North of Ireland Veterinary Association, has since this statement was made to the corporation written to the Belfast press showing that only in one case of the suspicious dairy cows could the veterinary surgeon of the corporation prevail on the owners to allow the tuberculin test to be used and in that case a positive reaction was present. It is clear therefore, that there has been some fallacy in the statistics. Under the new Dairies and Cowsheds Order adopted by the corporation the veterinary surgeon will be able to use more freely the tuberculin test. In reference to the reported absence of tuberculosis in such a large number of slaughtered animals Mr. Gregg says that the majority of these were young cattle from the country districts where the disease is not so prevalent as among older milch cows in crowded cities.

June 2nd.

appeal to the medical auditor (who, as stated, was numerously represented in the assembly) to coöperate in the work by giving his invaluable aid in the prompt reporting and due selecting of subjects for the "Scuola" and the "Casa" of Labour alike—subjects who, in the practitioner's judgment, might profit by these institutions and give prestige and support to their beneficial mission.

May 31st.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Professor August Forel on the Tasks of Social Hygiene in the Twentieth Century.

ON the occasion of Professor August Forel's visit to Budapest for the purpose of delivering an address on the Tasks of Social Hygiene in the Twentieth Century the town-hall was selected as the place of meeting and there was a very large attendance. Before presenting the chief points of his discourse I may give some particulars relative to his life and scientific work. He is a tall, grey man, lively in demeanour, and a quick speaker. He was born in the French-speaking part of Switzerland in 1848. He holds the degrees of doctor of medicine and doctor of philosophy. He was formerly assistant at the psychiatric clinic in Vienna, afterwards becoming professor in the University of Zürich, and now he practises his profession in Yvorne, a small village in Switzerland. He has never been wealthy, although enjoying a reputation which brings patients from all parts of the world to seek his advice. The two subjects which have formed the chief pursuits of his life are the treatment of mental diseases and the natural history of ants, the former being his professional occupation, while the latter is his pastime. On the subject of ants he has written one large work, together with more than 100 shorter memoirs in which he has described an immense number of varieties of these insects. As a boy of 16 years he undertook an experiment with a view to ascertain whether the community exists only as long as the mother ant survives. He made an anthill on the yard of his father's house and studied the insects for 10 years. When 30 years of age he became professor and director of a large lunatic asylum in Zürich, but in 1898 he resigned both appointments in consequence of a dispute with the Cantonal Government and entered on private practice. The great success of his first considerable work, "Die Sexuelle Frage" ("The Sexual Question"), is shown by its being translated into French, English, Hungarian, Swedish, Italian, and Spanish. The proceeds of the sale of this book enabled him to buy a house in Yvorne where he lives with his family and with two or three resident patients. Indifferent to the so-called pleasures of life and limiting his personal wants to the mere necessaries of existence, he passes the whole day in mental application and regrets as lost the time which has been otherwise employed. As already mentioned, his audience in the town-hall at Budapest was very large, comprising about 2000 persons, most of whom were medical men. He began his discourse with a survey of the progress and development of mankind during last century, saying that the most notable figure of the nineteenth century was neither Bismarck nor Napoleon but Darwin. He considered that the immense development of industrial undertakings has made the people of the present day very self-conceited. They are inclined to over-estimate their own mental capacity in comparison with the men of olden times and other continents. It cannot be denied that certain races of mankind are superior in brain power to some other races. For instance, mental work like that of the white races could never be expected from negroes. It has, however, been a great mistake on the part of the white races to underestimate the immense progress, both material and intellectual, which the Japanese have made during the last 30 years. Some people say that the Japanese are only imitating us. But did not the European nations in the fifteenth century, the age of the Renaissance, imitate the Greeks and the Romans? And do they not now acknowledge the fact with justifiable pride? There was no difference, he said, between the mental capacity of the ancients and the moderns; the only difference was that we, the moderns, had inherited the experience of our ancestors and the great stock of scientific knowledge which they had accumulated with immense diligence and pains. We have in this way learned a great deal which was unknown to the Greeks and Romans. While over-estimating the triumphs of technics and industry we not only forget the reverence and respect due to the individual, but we lose sight of the great and important question how the human race can be improved and brought nearer to perfection. It is a false estimate of human duty not to prevent the propagation of the race by individuals of imperfect mental and physical development. One of the most important tasks of social hygiene and the medical profession was to prevent degenerates from propagating. It was also necessary to demolish several false gods—first of all, Bacchus and Gambrinus, who were a constant peril to the human race. Alcohol weakened the mental power even of those who took it in strict moderation. To remedy these many miseries of mankind was the task of social ethics, and those who worked in this good cause took for their motto the words, "Let us give more to the community than the community gives to us." The idea embodied in social ethics was self-sacrifice on the part of the individual for the good of the community, whereas sacrificing for one person was a kind of egoism. Women ought especially to beware of it. In some respects the female brain was inferior to the male brain, but in the qualities of mental alertness, sympathy, and perseverance women were decidedly superior to men. Social ethics have for their necessary supplement social hygiene, which aims at producing healthier and happier generations. Both of them aim at the prevention of human misery. Both of them, therefore, denounce alcoholism and the passion for money-making which presses so heavily on the masses and converts the working classes into mere proletarians. Both of them alike inculcate sexual purity and early marriage. Prostitution ought to be abolished by removing its causes and not by vain attempts to enforce repressive police measures. A student, aged 22 years, who loved a girl, aged 18 years, asked Professor Forel to advise him what to do, because some time must elapse before he could marry her on account of his inability to maintain a wife and the child who was to be expected. Professor Forel's advice in such cases is that the lovers should marry but should postpone procreation until their circumstances improve. Unhealthy and degenerate married couples who are for that reason ill adapted to be the parents of the coming race ought in his opinion to postpone procreation indefinitely. To forbid such people to marry would be inhuman, but to encourage them to propagate would be contrary to the interests of posterity. Professor Forel argues that as the earth is already sufficiently peopled now is the time to give preference to quality over quantity in the population. As a means of furthering this object he considers the artificial limitation of births to be justifiable. Suitable instruments for accomplishing such limitation have been devised and the use of them cannot be considered immoral. It would be just as reasonable to assert that it was immoral to wear spectacles which similarly do not belong to the body. Professor Forel is a zealous advocate of the emancipation of women, which he expects to be a leading feature of the twentieth century. Among the lower animals, he said, there is no example of the male making a slave of the female, this system being confined entirely to the human family. Women were justified in claiming the right of voting and it was a matter of astonishment to him that some women were indifferent to the attainment of this right. Finally, he expressed a hope that the time would come when all differences of nationality and language would be smoothed away. He was therefore an ardent supporter of Esperanto, a universal language which would bring the nations nearer to each other in the great work of humanity.

June 1st.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Sudden Death of a Prominent Surgeon in Western Canada.

IN the early morning of April 24th Dr. W. S. England of Winnipeg, Manitoba, died from cerebral hæmorrhage. He was 40 years of age. To not many of Canada's surgeons did success come so early in life as to Dr. England. Born in the province of Quebec 40 years ago he matriculated at McGill University, Montreal, in 1885 and received his degree with first-class honours from the same institution in 1889. After spending a year as interne in the Montreal General Hospital he proceeded to Winnipeg, and that he was made of more

Professor Orth (the successor of Virchow) who mentioned that Virchow's famous book on Tumours was left unfinished and especially in regard to the chapter on Cancer. He informed the meeting that this chapter had been written by the late *savant* but that at the time when it was to be printed new researches on cancer were published by Professor Waldeyer and Professor Thiersch in which Virchow's views were corrected. He agreed fully that his views must be revised but he had no time to rewrite the chapter on Cancer and therefore preferred to let his work appear in an unfinished state. The speaker said that if Virchow had witnessed the new experimental era of cancer research he would have undoubtedly brought his views into accordance with the new researches.

The first scientific paper was read by Professor Borrel of the Pasteur Institute of Paris on the problem of the etiology of cancer. He gave a historical survey of the views on cancer, saying that the question had gradually developed from a metaphysical problem to a matter of experiment. Alluding to the work of Ehrlich, Jensen, Bashford, and others, he pointed out the great importance of the discovery that cancer may be transplanted from one animal to another and that sarcoma may in the course of the implantations develop. It is stated that in cancer the normal cells become transformed and that at the same time they acquire the faculty of multiplying in an abnormal degree. The cause of the transformation and of the multiplication is, however, not yet ascertained; it is probable that they are produced by a certain virus, but all efforts to identify it have hitherto ended in failure. Professor Dollinger of Budapest then spoke on some results of the Hungarian statistics on cancer. He drew attention to the fact that in cancer the number of deaths is three times greater than the number of patients who had been under the care of medical men. It must thus be concluded that many of the patients are not aware of their disease or that they suffer so little that they do not require medical attendance. He then mentioned that in Hungary the number of cases of cancer in the country is only one-third of the number observed in towns and he gave a report of the frequency of cancer in the different organs. He concluded from the statistical tables that cases of cancer in which diagnosis and operation have been early have a lower death-rate than others.

Professor Jensen of Copenhagen discussed some problems of experimental cancer research, including researches on growths in larger animals and the causes of the alteration of the histology of cancer after the growth had been conveyed from one mouse to another. The cause may be in a peculiarity of the tissue of the second animal, in the internal qualities of the growth, or in a kind of pure culture produced by the frequent transplantations. Further problems were the action of different rays on cancer, the eventual discovery of an antiserum, and immunity. The fact that a certain species of mouse which was very much disposed to cancer in Frankfort became exempt in Norway leads to the conclusion that the climate, the alteration of food, &c., might be of importance. Experiments must further be made regarding heredity but 100,000 animals and coöperation amongst the different laboratories would be necessary for these investigations. The last paper was read by Professor Podwyssowski of St. Petersburg who spoke on the theory of irritants. He said that the irritation theory was one of the oldest theories to account for the development of cancer. As the result of recent researches it had been stated that certain irritants had an influence on the structure and the chemical composition of cells, so that they were right to suppose that those irritants might influence the development of cancer also as suggested by the late Professor Virchow.

June 1st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Italian Association for the Advancement of Science: Its Second Meeting.

THE "*Congresso* Italiano per il Progresso delle Scienze"—an "association" organised on the lines of the "British" and, after two abortive attempts within the last 60 years, successfully inaugurated at Parma last autumn—will hold its second meeting from Oct. 18th to 25th in Florence—time and place being *motivé* by the fact that about that date the third centenary of Evangelista Torricelli will be celebrated in the "City of Flowers," associated as she is with the best and latest work of that master in physics, theoretical and applied. An honorary committee, the President of which is His Royal Highness the Count of Turin and the *personnel* of which includes the first names in science, literature, and fine art, as well as distinguished members of both Houses of Parliament, has held its inaugural meeting in the Palazzo Vecchio (Town Hall) of Florence, at which the arrangements for the due carrying out of the programme of the association were the subject of harmonious conference. The municipality will lead off with a reception of the "Congressisti" in the Palazzo Vecchio, while the "Deputazione Provinciale" will not be behindhand in similar hospitalities held in the Palazzo Riccardi. The halls of the Leonardo da Vinci will also be placed at the service of the association. The city and commune will liberally subsidise the "war-chest" of the meeting and the Government is expected to contribute towards the funds already announced *ad hoc*. The working committee or "comitato scientifico" will have as President the Senator Vito Volterra, professor of applied mathematics in the University of Rome, and as Vice-Presidents a body of *savants* in which the medical calling is largely represented to preside over the sections and sub-sections in which the work of the association will be carried out. That work will be classified under three main catagories: (1) that of the mathematical, physical, and chemical sciences; (2) that of the biological sciences; and (3) that of the moral or humanistic sciences. These again will be subdivided into sections and sub-sections to be determined "a seconda delle opportunita di tempo e di luogo" (according as time and place may indicate), to be announced, moreover, at a convenient date. No effort will be spared to improve upon the success already achieved at Parma and to make the last fortnight of October next a memorable one for Florence and for those of the outer world who find attraction in science as well as in history and art.

The Cripple and the Maimed.

On May 29th Dr. Riccardo Galeazzi, professor of orthopædia and privat-docent in clinical surgery in the University of Turin, also Director of the Institution for the Care and Cure of Rachitis in Milan, gave in the latter city a lecture on the schools and workhouses for the cripple and the maimed. His audience was a distinguished as well as a numerous one, many practitioners of medicine and surgery, general and consultant, being in attendance. After an eloquent tribute to Dr. Pietro Panzieri, Italy's apostle in the relief and reclamation of the physically deformed, Professor Galeazzi stated that the proportion of "storpi e mutilati" (cripple and maimed) in society as a whole is 1 per 1000 of the population, while Italy has no fewer than 175,000, of whom 116,000 live in the most squalid misery. To come to the rescue of such Germany has 33 "*schools of labour*" (workhouses) with 2660 pupils, while Denmark, Sweden, and Norway are at the head of the movement, other nations having few such institutions or none at all. America, he remarked, is showing in the cause a characteristic energy and philanthropy in which Italy lags far behind. The "Istituto dei Rachitici" in Milan, however, the only Italian institution of the kind worth mention, has already done excellent work by its "Scuola di Lavoro" (school of labour), shortly to be supplemented (thanks to Donna Fanny Finzi Ottolenghi) by a "Casa di Lavoro" (house of labour) in which the instruction given in the school will have taken effect in actual production, placed as it will be under the skilled administration of the Istituto dei Rachitici. These houses of labour in other countries have succeeded in making 90 per cent. of the cripple and the maimed wage-earners and bread-winners, a proportion which in Italy would redeem 40,000 unfortunates from the misery and squalor in which they now live and die. Their effect in reducing her mendicancy—one of her most crying opprobria—is only too manifest. Dr. Galeazzi, in the course of his most interesting address, gave authentic instances of how literature, fine art, mechanical appliances, even science itself, had been enriched by the cripple and the maimed when the process of rescue and instruction had been opportunely begun and steadily carried out, illustrating his remarks by "projections" which placed in luminous relief the genius, artistic and mechanical, evoked from "society's victims" when taken in hand and treated skilfully in time. He concluded by an appeal to the medical auditor (who, as stated, was numerously represented in the assembly) to coöperate in the work by giving his invaluable aid in the prompt reporting and due selecting of subjects for the "Scuola" and the "Casa" of Labour alike—subjects who, in the practitioner's judgment, might profit by these institutions and give prestige and support to their beneficial mission.

May 31st.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Professor August Forel on the Tasks of Social Hygiene in the Twentieth Century.

ON the occasion of Professor August Forel's visit to Budapest for the purpose of delivering an address on the Tasks of Social Hygiene in the Twentieth Century the town-hall was selected as the place of meeting and there was a very large attendance. Before presenting the chief points of his discourse I may give some particulars relative to his life and scientific work. He is a tall, grey man, lively in demeanour, and a quick speaker. He was born in the French-speaking part of Switzerland in 1848. He holds the degrees of doctor of medicine and doctor of philosophy. He was formerly assistant at the psychiatric clinic in Vienna, afterwards becoming professor in the University of Zürich, and now he practises his profession in Yvorne, a small village in Switzerland. He has never been wealthy, although enjoying a reputation which brings patients from all parts of the world to seek his advice. The two subjects which have formed the chief pursuits of his life are the treatment of mental diseases and the natural history of ants, the former being his professional occupation, while the latter is his pastime. On the subject of ants he has written one large work, together with more than 100 shorter memoirs in which he has described an immense number of varieties of these insects. As a boy of 16 years he undertook an experiment with a view to ascertain whether the community exists only as long as the mother ant survives. He made an anthill on the yard of his father's house and studied the insects for 10 years. When 30 years of age he became professor and director of a large lunatic asylum in Zürich, but in 1898 he resigned both appointments in consequence of a dispute with the Cantonal Government and entered on private practice. The great success of his first considerable work, "Die Sexuelle Frage" ("The Sexual Question"), is shown by its being translated into French, English, Hungarian, Swedish, Italian, and Spanish. The proceeds of the sale of this book enabled him to buy a house in Yvorne where he lives with his family and with two or three resident patients. Indifferent to the so-called pleasures of life and limiting his personal wants to the mere necessaries of existence, he passes the whole day in mental application and regrets as lost the time which has been otherwise employed. As already mentioned, his audience in the town-hall at Budapest was very large, comprising about 2000 persons, most of whom were medical men. He began his discourse with a survey of the progress and development of mankind during last century, saying that the most notable figure of the nineteenth century was neither Bismarck nor Napoleon but Darwin. He considered that the immense development of industrial undertakings has made the people of the present day very self-conceited. They are inclined to over-estimate their own mental capacity in comparison with the men of olden times and other continents. It cannot be denied that certain races of mankind are superior in brain power to some other races. For instance, mental work like that of the white races could never be expected from negroes. It has, however, been a great mistake on the part of the white races to underestimate the immense progress, both material and intellectual, which the Japanese have made during the last 30 years. Some people say that the Japanese are only imitating us. But did not the European nations in the fifteenth century, the age of the Renaissance, imitate the Greeks and the Romans? And do they not now acknowledge the fact with justifiable pride? There was no difference, he said, between the mental capacity of the ancients and the moderns; the only difference was that we, the moderns, had inherited the experience of our ancestors and the great stock of scientific knowledge which they had accumulated with immense diligence and pains. We have in this way learned a great deal which was unknown to the Greeks and Romans. While over-estimating the triumphs of technics and industry we not only forget the reverence and respect due to the individual, but we lose sight of the great and important question how the human race can be improved and brought nearer to perfection. It is a false estimate of human duty not to prevent the propagation of the race by individuals of imperfect mental and physical development. One of the most important tasks of social hygiene and the medical profession was to prevent degenerates from propagating. It was also necessary to demolish several false gods—first of all, Bacchus and Gambrinus, who were a constant peril to the human race. Alcohol weakened the mental power even of those who took it in strict moderation. To remedy these many miseries of mankind was the task of social ethics, and those who worked in this good cause took for their motto the words, "Let us give more to the community than the community gives to us." The idea embodied in social ethics was self-sacrifice on the part of the individual for the good of the community, whereas sacrificing for one person was a kind of egoism. Women ought especially to beware of it. In some respects the female brain was inferior to the male brain, but in the qualities of mental alertness, sympathy, and perseverance women were decidedly superior to men. Social ethics have for their necessary supplement social hygiene, which aims at producing healthier and happier generations. Both of them aim at the prevention of human misery. Both of them, therefore, denounce alcoholism and the passion for money-making which presses so heavily on the masses and converts the working classes into mere proletarians. Both of them alike inculcate sexual purity and early marriage. Prostitution ought to be abolished by removing its causes and not by vain attempts to enforce repressive police measures. A student, aged 22 years, who loved a girl, aged 18 years, asked Professor Forel to advise him what to do, because some time must elapse before he could marry her on account of his inability to maintain a wife and the child who was to be expected. Professor Forel's advice in such cases is that the lovers should marry but should postpone procreation until their circumstances improve. Unhealthy and degenerate married couples who are for that reason ill adapted to be the parents of the coming race ought in his opinion to postpone procreation indefinitely. To forbid such people to marry would be inhuman, but to encourage them to propagate would be contrary to the interests of posterity. Professor Forel argues that as the earth is already sufficiently peopled now is the time to give preference to quality over quantity in the population. As a means of furthering this object he considers the artificial limitation of births to be justifiable. Suitable instruments for accomplishing such limitation have been devised and the use of them cannot be considered immoral. It would be just as reasonable to assert that it was immoral to wear spectacles which similarly do not belong to the body. Professor Forel is a zealous advocate of the emancipation of women, which he expects to be a leading feature of the twentieth century. Among the lower animals, he said, there is no example of the male making a slave of the female, this system being confined entirely to the human family. Women were justified in claiming the right of voting and it was a matter of astonishment to him that some women were indifferent to the attainment of this right. Finally, he expressed a hope that the time would come when all differences of nationality and language would be smoothed away. He was therefore an ardent supporter of Esperanto, a universal language which would bring the nations nearer to each other in the great work of humanity.

June 1st.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Sudden Death of a Prominent Surgeon in Western Canada.

IN the early morning of April 24th Dr. W. S. England of Winnipeg, Manitoba, died from cerebral hæmorrhage. He was 40 years of age. To not many of Canada's surgeons did success come so early in life as to Dr. England. Born in the province of Quebec 40 years ago he matriculated at McGill University, Montreal, in 1885 and received his degree with first-class honours from the same institution in 1889. After spending a year as interne in the Montreal General Hospital he proceeded to Winnipeg, and that he was made of more

Professor Orth (the successor of Virchow) who mentioned that Virchow's famous book on Tumours was left unfinished and especially in regard to the chapter on Cancer. He informed the meeting that this chapter had been written by the late *savant* but that at the time when it was to be printed new researches on cancer were published by Professor Waldeyer and Professor Thiersch in which Virchow's views were corrected. He agreed fully that his views must be revised but he had no time to rewrite the chapter on Cancer and therefore preferred to let his work appear in an unfinished state. The speaker said that if Virchow had witnessed the new experimental era of cancer research he would have undoubtedly brought his views into accordance with the new researches.

The first scientific paper was read by Professor Borrel of the Pasteur Institute of Paris on the problem of the etiology of cancer. He gave a historical survey of the views on cancer, saying that the question had gradually developed from a metaphysical problem to a matter of experiment. Alluding to the work of Ehrlich, Jensen, Bashford, and others, he pointed out the great importance of the discovery that cancer may be transplanted from one animal to another and that sarcoma may in the course of the implantations develop. It is stated that in cancer the normal cells become transformed and that at the same time they acquire the faculty of multiplying in an abnormal degree. The cause of the transformation and of the multiplication is, however, not yet ascertained; it is probable that they are produced by a certain virus, but all efforts to identify it have hitherto ended in failure. Professor Dollinger of Budapest then spoke on some results of the Hungarian statistics on cancer. He drew attention to the fact that in cancer the number of deaths is three times greater than the number of patients who had been under the care of medical men. It must thus be concluded that many of the patients are not aware of their disease or that they suffer so little that they do not require medical attendance. He then mentioned that in Hungary the number of cases of cancer in the country is only one-third of the number observed in towns and he gave a report of the frequency of cancer in the different organs. He concluded from the statistical tables that cases of cancer in which diagnosis and operation have been early have a lower death-rate than others.

Professor Jensen of Copenhagen discussed some problems of experimental cancer research, including researches on growths in larger animals and the causes of the alteration of the histology of cancer after the growth had been conveyed from one mouse to another. The cause may be in a peculiarity of the tissue of the second animal, in the internal qualities of the growth, or in a kind of pure culture produced by the frequent transplantations. Further problems were the action of different rays on cancer, the eventual discovery of an antiserum, and immunity. The fact that a certain species of mouse which was very much disposed to cancer in Frankfort became exempt in Norway leads to the conclusion that the climate, the alteration of food, &c., might be of importance. Experiments must further be made regarding heredity but 100,000 animals and coöperation amongst the different laboratories would be necessary for these investigations. The last paper was read by Professor Podwyssowski of St. Petersburg who spoke on the theory of irritants. He said that the irritation theory was one of the oldest theories to account for the development of cancer. As the result of recent researches it had been stated that certain irritants had an influence on the structure and the chemical composition of cells, so that they were right to suppose that those irritants might influence the development of cancer also as suggested by the late Professor Virchow.

June 1st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Italian Association for the Advancement of Science: Its Second Meeting.

THE "Congresso Italiano per il Progresso delle Scienze"—an "association" organised on the lines of the "British" and, after two abortive attempts within the last 60 years, successfully inaugurated at Parma last autumn—will hold its second meeting from Oct. 18th to 25th in Florence—time and place being *motivé* by the fact that about that date the third centenary of Evangelista Torricelli will be celebrated in the "City of Flowers," associated as she is with the best and latest work of that master in physics, theoretical and applied. An honorary committee, the President of which is His Royal Highness the Count of Turin and the *personnel* of which includes the first names in science, literature, and fine art, as well as distinguished members of both Houses of Parliament, has held its inaugural meeting in the Palazzo Vecchio (Town Hall) of Florence, at which the arrangements for the due carrying out of the programme of the association were the subject of harmonious conference. The municipality will lead off with a reception of the "Congressisti" in the Palazzo Vecchio, while the "Deputazione Provinciale" will not be behindhand in similar hospitalities held in the Palazzo Riccardi. The halls of the Leonardo da Vinci will also be placed at the service of the association. The city and commune will liberally subsidise the "war-chest" of the meeting and the Government is expected to contribute towards the funds already announced *ad hoc*. The working committee or "comitato scientifico" will have as President the Senator Vito Volterra, professor of applied mathematics in the University of Rome, and as Vice-Presidents a body of *savants* in which the medical calling is largely represented to preside over the sections and sub-sections in which the work of the association will be carried out. That work will be classified under three main catagories: (1) that of the mathematical, physical, and chemical sciences; (2) that of the biological sciences; and (3) that of the moral or humanistic sciences. These again will be subdivided into sections and sub-sections to be determined "a seconda delle opportunita di tempo e di luogo" (according as time and place may indicate), to be announced, moreover, at a convenient date. No effort will be spared to improve upon the success already achieved at Parma and to make the last fortnight of October next a memorable one for Florence and for those of the outer world who find attraction in science as well as in history and art.

The Cripple and the Maimed.

On May 29th Dr. Riccardo Galeazzi, professor of orthopædia and privat-docent in clinical surgery in the University of Turin, also Director of the Institution for the Care and Cure of Rachitis in Milan, gave in the latter city a lecture on the schools and workhouses for the cripple and the maimed. His audience was a distinguished as well as a numerous one, many practitioners of medicine and surgery, general and consultant, being in attendance. After an eloquent tribute to Dr. Pietro Panzieri, Italy's apostle in the relief and reclamation of the physically deformed, Professor Galeazzi stated that the proportion of "storpi e mutilati" (cripple and maimed) in society as a whole is 1 per 1000 of the population, while Italy has no fewer than 175,000, of whom 116,000 live in the most squalid misery. To come to the rescue of such Germany has 33 "schools of labour" (workhouses) with 2660 pupils, while Denmark, Sweden, and Norway are at the head of the movement, other nations having few such institutions or none at all. America, he remarked, is showing in the cause a characteristic energy and philanthropy in which Italy lags far behind. The "Istituto dei Rachitici" in Milan, however, the only Italian institution of the kind worth mention, has already done excellent work by its "Scuola di Lavoro" (school of labour), shortly to be supplemented (thanks to Donna Fanny Finzi Ottolenghi) by a "Casa di Lavoro" (house of labour) in which the instruction given in the school will have taken effect in actual production, placed as it will be under the skilled administration of the Istituto dei Rachitici. These houses of labour in other countries have succeeded in making 90 per cent. of the cripple and the maimed wage-earners and bread-winners, a proportion which in Italy would redeem 40,000 unfortunates from the misery and squalor in which they now live and die. Their effect in reducing her mendicancy—one of her most crying opprobria—is only too manifest. Dr. Galeazzi, in the course of his most interesting address, gave authentic instances of how literature, fine art, mechanical appliances, even science itself, had been enriched by the cripple and the maimed when the process of rescue and instruction had been opportunely begun and steadily carried out, illustrating his remarks by "projections" which placed in luminous relief the genius, artistic and mechanical, evoked from "society's victims" when taken in hand and treated skilfully in time. He concluded by an

Leading citizens were asked to coöperate with the authorities. In some instances the former arranged a sort of "At Home" for inoculation purposes; they fixed a day and a time and issued invitations to their friends (and not always to friends alone) to attend and to be inoculated. Sometimes, instead of using a private residence, a shamiana was erected in the street in the front of some house, the occupant of which took the lead in trying to get a large assembly of friends and others. There was music to let the local world know that something special was going on. There were sweetmeats for children and sometimes refreshments for adults, the immediate aim being to popularise inoculation, and it was gratifying to note how each man tried to improve upon the work done by others. It seemed to become almost a point of honour to attract as many people as possible—not as mere onlookers, but so that a "record" in the number of inoculations might be made. Mahomedans and Hindus entered into a kind of competition and when it is said that on one morning 714 persons were inoculated there cannot be a doubt that friendly rivalry helped to swell the figures. The residency surgeon from whom came the original suggestion regarding a house-to-house campaign against plague had somewhat different methods in view from those that were finally adopted but he was no doubt pleased with the results of the revised plan the working out of which owed its success to his energy and tact.

Advantages from Inoculation.

As to the advantages resulting from inoculation it may be said that less than a score of cases of plague have occurred among the 27,512 persons inoculated, and only seven cases ended fatally. This is in striking contrast to the record of 1207 cases, of which 1008 proved fatal, among the uninoculated population. In several cases superficial abscesses formed at the point of inoculation, but these all yielded to medical treatment and in no single instance were there any ill effects of importance. On the one hand, specific cases might be cited as demonstrating the efficacy of inoculation as a preventive of plague. On the other hand, a number of people have been disabused of erroneous ideas concerning the supposed harmful effects of inoculation. There have been instances of fairly intelligent people believing that anti-plague inoculation led to one evil consequence or another. The closest observation conducted under conditions highly favourable to the ascertainment of facts has revealed nothing in the case of the many thousands of people who have been inoculated here to give ground to such belief. It should be added that the success that has attended anti-plague inoculation in the civil and military station of Bangalore is the more remarkable because of the fact that until quite recently the authorities in the city of Bangalore took no similar action. City and station adjoin each other; there is an incessant flow of intercourse between the people of the two places and plague or any epidemic in the one cannot but seriously threaten the public health in the other.

A Pasteur Institute for Burma.

The provision of a Pasteur institute for Burma is now assured, but some little time must elapse before the work can be started. The local community has come forward liberally in subscribing the better part of one lakh of rupees and the Government of India is understood to be addressing the Burma administration on the subject of ways and means for carrying the scheme into effect, the total cost of such an institution being, of course, much in excess of the sum that has been raised. The good beginning which has been made, however, insures that the scheme will be persisted with.

Proposed Legislation for Vaccination in Burma.

Leave will be asked at the next meeting of the Burma Legislative Council to introduce a Bill for the prohibition of inoculation and the licensing of vaccinators in Burma. The statement of objects and reasons shows that at present inoculation may be performed legally in any rural tract in Burma. It is a common thing throughout the province and its undoubted danger has been represented by successive vaccination officers. Since, however, the practice has been regarded as a safeguard by the people it is not possible to prohibit it except where full protection can be offered by the provision of a thoroughly efficient system of vaccination. It is possible to effect gradually the necessary improvements in the vaccination staff of one local area after another and inoculation can be prohibited gradually until the prohibition has extended throughout the province. A penalty extending to three months' imprisonment or a fine up to Rs.200, or both, is provided for anybody performing or undergoing inoculation in a specified local area. It is not proposed to make vaccination compulsory in rural areas. The Bill also provides for the licensing of vaccinators. At present vaccination, like inoculation, can be performed in rural areas by anybody, and it has been found that vaccination by unqualified persons entails serious risk. The Bill, therefore, only permits persons to perform vaccination who are licensed by the Government, and a penalty extending to one month's imprisonment or a fine up to Rs.50, or both, is provided for in cases of the infringement of the law.

Motor Ambulances.

The Rangoon General Hospital authorities have invested in a 30 horse-power motor ambulance which is fitted with a spring mattress and inflated rubber cushions and pillow for a patient who cannot sit up and seats for two patients who can. The new ambulance is said to be a vast improvement on the old dhoolies which it has replaced.

Plague in India.

The latest plague returns show that though the disease is widespread in a number of provinces heavy mortality is practically confined to a few cities and districts. In the Bombay Presidency, out of 1561 deaths for the week ending May 4th, 496 occurred in Bombay city alone, 201 in Karachi, and 208 in Baroda State, while there were only 69 in the whole of the Southern Division. In Bengal, for which the figures for a fortnight are given, the deaths in Calcutta were 266, but the Presidency division outside the city was practically free from the disease. In the Burdwan division, in which are included Howrah town and district, the figures were 12, but in the Patna and Bhagalpur divisions the mortality in the Patna, Saran, Darbhanga, Shahabad, and Monghyr districts was comparatively high. Chota Nagpur and Orissa together returned only one case. In the United Provinces, out of 1280 deaths in the week, Mainpuri district reported 167, Muttra 156, Azamgarh 124, and Unao 107. In the whole of the Meerut division only two deaths occurred, both in the Dehra Dun district. Big towns, such as Allahabad, Lucknow, Benares, and Bareilly, reported no cases. In the Panjab, with 2543 deaths, 1458 took place in the Delhi division, 619 of these being in the Gurgaon district. In Rajputana, out of 583 deaths, 273 occurred in Jaipur city and 134 in Alwar State. In the whole of the Rawalpindi division there were only 37 deaths. Compared with the returns of last year the figures are small indeed, and although they are rising there are no signs of large areas being swept by the epidemic. The most disquieting fact, perhaps, is the recrudescence of plague in Bombay city, where so much has been done to stamp out the disease.

Plague in Mysore State.

Dealing with the 1907 report on plague administration in the State during the same year the Mysore Government notes with regret that the plague seizures and deaths in the State numbered nearly double those of the previous year. While the Shimoga and Chitaldrug districts were comparatively free the city of Mysore and the districts of Bangalore, Hasan, and Kadur suffered largely and mainly contributed to the increase. It is observed that no specific reasons for this large increase are given by the sanitary commissioner who only states that in many villages both the people and the officials concerned show a lack of vigilance and promptness of action in dealing with plague preventive measures. But there is abundant reason to believe that in the vast majority of cases individual houses and entire villages have been evacuated on the appearance of plague or even of dead rats, the people camping out in fields and other open spaces in huts constructed by themselves or with the aid of materials supplied by the Government free of charge or at concession rates, and returning to their houses only after these have been lime-washed and cleaned and oftentimes disinfected with chemicals. Health camps provided by the Government in large towns have also been availed of. It has often been noticed, however, that when a village is evacuated the inhabitants move only a short distance away from the infected village, as, for instance, across a road. Such evacuation must be quite useless as there is nothing to prevent the rats from traversing the few yards intervening between the temporary sheds and the infected houses. Hence, with a view to evacuation having a reasonable chance of being successful, the sanitary than ordinary stuff is seen from the fact that at the time of his death he was professor of anatomy in the Manitoba Medical College, chief surgeon to the Winnipeg General Hospital, and also consulting surgeon to the St. Boniface Hospital of that city. The late Dr. England was a keen surgeon, thorough in his work, and of the very best judgment.

The Toronto General Hospital and the University of Toronto.

The complaint recently made in the public press of Toronto that the board of governors of the Toronto General Hospital in making the recent medical and surgical staff appointments had not dealt fairly by the medical faculty of the University has called forth from one of the members of the Senate of the University of Toronto, who is also a representative on the board of governors of the Toronto General Hospital, a reply, and as it places the connexion of the two institutions in a clear light some of the details will be interesting. Under the written agreement with the University of Toronto the Toronto General Hospital received $300,000. The city of Toronto contributed $200,000 and subscribers $700,000. The old hospital board brought in assets to the value of about $1,000,000. The specific agreement with the University called for the purchase of a block of land directly opposite the University holdings and the immediate erection of a modern hospital building to cost not less than $900,000. The section of the written agreement which would appear to make the members of the medical faculty of the University *ipso facto* members of the hospital staff reads as follows :—

> Medical Students.—The trustees shall allow any medical student of the University of Toronto to visit the wards of the hospital for the purpose of receiving instruction from the members of the Faculty of Medicine upon the payment of such fees and under such regulations and restrictions as the trustees may by any resolution or by-law from time to time appoint.

The writer goes on to say :—

> This is the agreement, and it certainly does not make the members of the medical faculty *ipso facto* members of the hospital staff. In my opinion it would be against both the interests of the University and the hospital if it did. How could the hospital maintain discipline on its staff or administer the affairs of the hospital if members of an outside body appointed by a different authority were to occupy positions on the hospital staff without being responsible to the hospital board? How can the board be made responsible for the care of the sick if it has not the power to appoint and remove those who attend them? A member of the staff who was incapable or neglectful of his duties could retain his position in spite of the board of the hospital if he happened to be a member of the Medical Faculty of the University.

Under the Hospital Act the board of governors of the Toronto General Hospital consists of 25 members, of whom five are appointed by the University of Toronto, five by the city of Toronto, eight by the Ontario Government, and seven by the subscribers. The strong point is made that the Toronto General Hospital is not a university hospital, yet nearly all the members of the new staff are members of the Medical Faculty of the University. That is to say, the old hospital board which brings assets to the value of $1,000,000, the subscribers with their $700,000, and the city of Toronto with its $200,000 donotion, are represented by a handful of city practitioners, while the University with its $300,000 donation controls at least nine-tenths of the staff.

The Feeble-Minded in Ontario.

Dr. Helen MacMurchy a short time ago, by command of the Ontario Government, made a careful inquiry into the history and present condition of the feeble-minded in the province of Ontario, the object being to further the proper care of them. Dr. MacMurchy says :—

> The only satisfactory method of dealing with the problem of the feeble-minded is to recognise mental defect in children, training them, and giving them all through life the care and supervision that will enable them to earn at least a part of their living, and protect them from the crimes and evils that threaten them in the outside world. Special classes in the public schools and special institutions for those needing permanent care are required for these. Where special classes have been tried in Great Britain, on the continent of Europe, and in the United States it is found that more than two-thirds of the children who are in them are seriously defective mentally and will always be dependents. From the special schools then, as a rule, they are taken to a special institution as their permanent home. These children should be taken charge of about the age of six or seven. Some of them can be taught to read, write, and do arithmetic. A part of their time should be spent in learning useful trades and occupations. As they grow older they should be treated somewhat differently, and any of them who can act as helpers, attendants, and members of the staff of the institution should be placed in these positions, but the really feeble-minded should never be allowed to go out into the world. No training or supervision will ever change the defective mind into a normal one. It is always to be remembered that in providing for the care of the feeble-minded the Government and the people are not taking up a new burden. We pay the cost of their maintenance now, while they should pay the cost of their own way partly or wholly by working under supervision. The jails, the Mercer reformatory at Toronto, the hospitals, the refuges, and the county poor house, have a number of feeble-minded persons as inmates.

Presentation to Dr. Walter B. Geikie.

A life-size portrait of Dr. Walter B. Geikie, Toronto, formerly Dean of Trinity Medical College and for over 40 years actively engaged in medical teaching in Toronto, was presented to him recently by former students and by him presented to the Academy of Medicine, Toronto. The presentation was made on behalf of the graduates in medicine of Trinity College by Dr. George A. Bingham who referred to the 51 years of Dr. Geikie's life as a medical teacher. Dr. Geikie spoke in feeling terms of his life work and said that 32 of his years, from April, 1871, until June, 1903, had been devoted to the founding and building up of Trinity Medical College which in 1903 amalgamated with the Medical Faculty of the University of Toronto.

Toronto, May 18th.

INDIA.

(FROM OUR OWN CORRESPONDENTS.)

The Frontier Campaign.

ALL the home papers have given full details of the mobilisation of a field force styled the Mohmand Field Force on the frontier to operate against the Mohmands. The force consisted of three infantry brigades, each containing one British and three native infantry battalions, with two sections of a British and a complete (four section) native field hospital, divisional troops having also a complete native field hospital. The principal medical officer of the force is Colonel H. R. Whitehead, R.A.M.C., and all the field hospitals have been equipped with ambulance riding animals (half accompanying the first advance) and as far as possible with dandies on the regulation scale, with full complement of Army Bearer Corps men, half the dandies and bearers being held in readiness at the base (Peshawar) until required. A native base hospital has been formed at Peshawar. Others are apparently mobilising at Lahore Cantonments and Rawal Pindi. Up to date of writing the casualties amongst the troops employed have been small and apparently all the wounds are gunshot, the few fatal cases being abdominal. Under the present peace organisation each division has a complete x ray apparatus belonging to it, with several specially qualified x ray specialists in charge. This x ray equipment is arranged so as to be capable of being moved on service and employed in the field hospitals if required. Each division has also a complete staff of specialists in sanitation holding the D.P.H. diploma, and also specialists in advanced operative surgery will accompany the division when mobilised for field service.

The Campaign against Plague in Bangalore.

Bangalore is very proud of itself just now and not without reason. Of the civil population alone 25,174 have been inoculated with the anti-plague serum, and this is a record that cannot be touched by even India's largest cities. Including the military section of the local population 27,512 people have been inoculated (up to April 10th, 1908). These are large figures and possible residents in other stations may be interested in a brief note of the manner in which the above total has been reached. At the present time what is called house-to-house inoculation is the special feature of the campaign that is being waged against plague in Bangalore. Since this system was started on Dec. 21st, 1907, no less than 11,393 persons have been inoculated. The original intention was to adopt a true house-to-house system. It has been found that many people were indifferent or even hostile to inoculation, while many others were quite unable to attend at the inoculation stations that were established. In these last a great deal of excellent work was done and the lower classes were induced to flock to the different centres arranged from time to time and to submit themselves to the, to them, new kind of operation. There were many residents, however, who held aloof, whether voluntarily or not, and the authorities thought that they might apply the old principle of "if the mountain will not go to Mahomet, Mahomet must go to the mountain."

Inoculation Procedure.

The procedure that was finally adopted was very simple.

Commissioner has issued orders requiring detailed reports about the sanitary condition of the people and the roads with a view to improve the health of the general public, especially during the coming hot weather. Tientsin is the commercial capital of North China and each of the foreign concessions in it has its own municipality and public health regulations but hitherto nothing in matters sanitary has been done in the densely populated Chinese city.

The Stamping-out of Opium Smoking.

I append a translation of the latest Imperial Edict on the opium habit to enable your readers to see for themselves the active efforts which the Chinese Court and Government are making to suppress a national vice.

IMPERIAL EDICT, 7TH APRIL.

Ching Hsin and Ting Shen-tao are appointed special commissioners in charge of the work of opium suppression. They are required to ascertain whether there are any officials either in Peking or the provinces still smoking opium, and to draw up regulations to deal with officials still guilty of this habit. Her Majesty the Empress Dowager has been informed that there are still some officials breaking the rule, and the Grand Council is hereby authorised to dismiss any official from the rank of Viceroy down who persists in smoking. The two above officials are held responsible in this matter and they are granted taels 30,000 for initial expenses of their work and to open their office, and taels 60,000 annually to maintain it. It is to be kept up until the opium habit is entirely stopped.

April 9th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Climatology of Australia.

Mr. Hunt, the Commonwealth meteorologist, has issued a report dealing with the above subject. Mr. Hunt considers that Australia is, by reason of its insularity and the absence of striking physical features, less subject to extremes of weather than are regions of similar area in other parts of the globe, and that, latitude for latitude, it is more temperate. The hottest area of the continent is situated in the northern parts of West Australia, about the Marble Bar and Nullagine goldfields, where the maximum *shade* temperature exceeds 100° F. for weeks continuously. The coldest area is in the extreme south-east of New South Wales and extreme east of Victoria, where in the region of the Australian Alps the shade temperature rarely if ever exceeds 100°. The average rainfall of Australian cities affords some surprising comparisons with other great world centres. London has an average 2 inches below that of Melbourne, Edinburgh 1·31 inches less, San Francisco 4 inches less, and Berlin about the same. Amsterdam, Christiania, Copenhagen, Paris, Moscow, St. Petersburg, and Stockholm are all below. The wettest Australian town is Geraldton, on the Queensland coast, where the average rainfall is 145 inches (maximum 211, minimum 69). Lake Eyre district in South Australia has an annual average of only five inches. Mr. Hunt thinks that the Australian "southerly buster" is of like character, and probably derived from similar atmospheric conditions, as the "bora" of Dalmatia, the "mistral" of France and the Gulf of Lyons, and the "pampero" of South America.

Children's Hospital, Sydney.

At the annual meeting of the supporters of the Royal Alexandra Hospital for Children Mr. C. P. B. Clubbe said he regretted that the hospital was not supported as it should be by the public. If the public would not support these institutions there must be a hospital tax imposed. Mr. Dorman, representing the Hospital Saturday Fund, said that the hospital certainly did not receive enough money from the Government. Recently there had sprung into existence a number of institutions calling themselves medical charities which were not fit to bear the name; many institutions which had proved their utility were languishing while funds were being diverted to these others. The public gifts should go through some channel by which they would be properly distributed.

Vital Statistics of Sydney.

During the quarter ended March 31st the metropolitan birth-rate was 6·26 per 1000 of population. The births numbered 3577. There were in the same period 1519 deaths, equal to a rate of 2·76 per 1000. This birth-rate is 7 per cent. and the death-rate is 5 per cent. higher than that of the corresponding period of 1907.

Infectious Diseases Hospital, Melbourne.

In 1891 it was decided to build a hospital for infectious diseases in Melbourne. The project lingered until 1897 when it was finally decided to build in commemoration of the Diamond Jubilee of the late Queen Victoria and to name the institution the Queen's Memorial Hospital. The hospital was largely designed under the supervision of the late Dr. D. A. Gresswell and cost £18,250. Its history up to the time of completion was a series of disputes and dissensions among its promoters and since it was opened about five years ago it has never given complete satisfaction. The design is faulty and only scarlet fever and diphtheria patients are admitted, with the result that there are never more than two-thirds of the beds in use. The management is in the hands of a committee representing the various municipalities which contribute to the up-keep. Patients may be charged in some instances as much as 7*s.* 6*d.* per day. The dissatisfaction with the position and general management of the hospital is likely to be brought forward prominently in connexion with a complaint by the father of a recent inmate that his child was sent home in a dirty state. The hospital authorities deny that there is any ground for the allegation, but Dr. Norris, chairman of the Board of Public Health, wrote to the medical superintendent to the effect that the statements call for a more extended reply. The Inspector of Charities has furnished a report to the Premier in which he stated that the brown appearance of the skin of the child on his discharge was naturally due to open-air treatment but that his head was clean on admission and subsequently required treatment. The report states that "the hospital authorities were undoubtedly to blame in handing the child over to its parents other than in a thoroughly clean condition." The inspector also remarked that while the hospital was doing good work it required to be extended and popularised. At present it was difficult to obtain admission and charges for maintenance were excessive.

Melbourne Hospital.

The trustees of the Wilson Estate, who offered £100,000 towards rebuilding the Melbourne Hospital, practically directed that it should be rebuilt on the present site and the committee has concurred. The trustees have now invited architects to communicate with them in order that they may suggest a name to the hospital committee as they are entitled to do so under the terms of the gift. The gentleman selected must be prepared to spend at least six months in visiting and examining the most modern hospitals in Europe and America.

Diagnosis of Fractured Skull.

Within the space of a few days three cases have come before the Melbourne city coroner in which the deceased person had been found drunk, taken to the lock-up, become seriously ill in the cells, removed to the Melbourne Hospital, and died. In the last case the subject had been seen at the hospital prior to being locked up and refused admission. The coroner has expressed his opinion that the initiation of a State public medical service at night deserved consideration. He produced a copy of a London journal which contended that "the time will come, we hope, when a medical man will be engaged to attend at all police stations in large towns to do duty for a certain number of hours and to diagnose doubtful cases, render skilled aid in cases of accident and sudden attacks of serious illness."

Juvenile Smoking.

At Dimboola, an up-country centre in Victoria, the first case under the new Act for the prevention of juvenile smoking was heard at the local police-court. A lad was summoned for having given a cigarette to a companion who was under the age of 16 years. The lad receiving the cigarette appeared, however, to be over the statutory age and had made a statement to that effect. The case was dismissed but the police magistrate improved the occasion by a severe lecture to the recipient of the gift for having told an untruth as to his age.

Medical Registration in Victoria.

A deputation consisting of members of the Medical Board, the Council of the British Medical Association (Victoria branch), and the Melbourne Medical Association, waited on the Chief Secretary to request an amendment in the present Act relating to medical registration. As the Act at present stands one homœopathic practitioner may be admitted each year in Victoria provided he holds a diploma commissioner has been requested to prescribe a *minimum* distance to which the villagers should remove.

Importation of Cocaine.

A notification of the Government of India is published which prohibits the bringing by sea or land into British India of cocaine by means of the post, and restricts its importation by any other means to cases in which it is imported by persons or their authorised agents who have been specially permitted to import the drug by a local government or administration or by the Madras Board of Revenue.

Wild Animals in Madras.

During 1907 in the Madras Presidency the number of persons reported to have been killed by wild animals and snakes was 2041, or 197 more than in the previous year. There was a considerable increase in the number of deaths caused by tigers in Vizagapatam, by other animals in Tinnevelli, and by snakes in North Arcot. The number of cattle killed fell by 361. The decreases occurred principally in Malabar and South Canara, while North Arcot and Coimbatore report large increases. The total number of wild beasts for the destruction of which rewards were paid during the year was 797, or 109 less than in the previous year. The amount paid in rewards was Rs.13,698, or Rs.1133 less than in the previous year. Rewards aggregating Rs.2920 were paid for the destruction of 69 tigers. A sum of Rs.13,111 was spent during the year on the removal of noxious undergrowth which harbours snakes, &c.

May 7th.

NOTES FROM CHINA.

(FROM OUR OWN CORRESPONDENT.)

Disposal of Refuse in China.

IN view of the great expense entailed upon sanitary authorities at home in the disposal of refuse by the erection of septic tanks, refuse destructors, &c., it might be interesting to consider the universal system which has been in vogue from prehistoric times in China where such highly specialised procedures are quite unknown. China is essentially an agricultural country and the greater part of the Empire may be looked upon as being one vast sewage farm. Excremental refuse is not in any way regarded as a waste product here; on the contrary, its value is so great that the authorities do not attempt to regulate its disposal in any way, knowing well enough that it is dealt with in a very active manner by the people. Take, for example, this big city of Peking with three-quarters of a million inhabitants. Numbers of people earn a good living by being night-soil collectors. Here and there men build latrines in the streets, from which they collect the deposit of chance pedestrians, while every lane and street is the property of others as far as the house-to-house collection of excreta is concerned. In addition, there are large numbers of itinerant gatherers who perambulate the streets, bucket on back and spade in hand, with keen eyes for any stray deposit from either man or beast. Among the male part of the population the act of defæcation is not regarded as one requiring any privacy and thus it comes that various open spaces in the city are made conveniences of by passers-by. In the streets the night-soil collectors' wheelbarrow loaded to the buckets' brims jostles the mandarin in his carriage or the itinerant purveyor of food. All this refuse is taken to the outskirts of the city, where there are "clearing houses" from which the farmers buy. No fields are ever allowed to lie fallow. Not only that but they are forced by means of this liberal manure dressing to raise two crops of corn a year. In the case of rice the soil is first prepared with manure which is thickly spread over the surface, then by flooding the fields with water a mixture of unsavoury slush is made. Vegetables such as turnips, cabbages, tomatoes, and egg plants are treated in the same way as the cereals. It is to this whole system that the extraordinary fertility of the land is due, but here also lies the cause of the high prevalence of intestinal parasitism. Over 60 per cent. of Chinese harbour one or another of these parasites; so much so that in hospital practice it is generally found that a useful routine is to begin medical treatment by a dose of calomel and santonin. Thus in St. Luke's Hospital, Shanghai, Dr. Eli Day, working in conjunction with Dr. W. H. Jefferys, made an examination of 500 stools mostly from surgical cases with the following result. For the sake of greater accuracy the findings of the first 50 stools were excluded.

—	Single *infection.*	Mixed infection.	Total cases of infection.	Percentage.
Ascaris lumbricoides	151	96	247	54·8
Trichocephalus dispar (trichiuris)	22	89	111	24·6
Ankylostoma duodenale	4	21	25	5·5
Distoma sinense ...	2	—	2	0·4
Fasciola hepatica ...	—	2	2	0·4
Strongyloides intestinalis	—	1	1	0·2
Oxyuris vermicularis	1	—	1	0·2
Cases with positive findings	—	—	275	61·1

These examinations were irrespective of symptoms presented and are practically borne out by the results obtained in Hong-Kong public mortuary, where post-mortem examinations are performed on a scale neither attempted nor permitted in any place in China. In Hong-Kong ascaris lumbricoides has been found present in 90 per cent. of the bodies examined, trichocephalus in a fair proportion, and ankylostoma very rarely. Distoma sinense is next to ascaris the commonest parasite, being constantly met with in the bile-ducts and gall-bladder. A feature of note is the absence of cestodes among the Chinese; in fact, they are never met with except among those who indulge in foreign food or have returned from abroad. In my last letter I referred to the rarity of appendicitis among Chinese. Perhaps the similar rarity of cases of tapeworm may be more than a coincidence, as both these affections are present in countries where much and imperfectly cooked beef is eaten. The slice of underdone roast beef so popular at English tables is quite unknown in China. Trichina spiralis is another parasite that may be said to be absent in China, although pork is the commonest kind of meat eaten and the village pigs support themselves mainly by scavenging.

Union Medical College, Peking.

In response mainly to the indefatigable efforts of Dr. T. Cochrane, the principal of this college, the Imperial Government has followed up the Charter which it granted in 1906 by making an annual allowance. This may be looked upon as a more important step than it might at first sight seem, for it means a direct filip to the cause of scientific medicine, especially in this ancient city of Peking. It is the first Government grant given to any medical college under European direction. The teaching is in Chinese and no stone is being left unturned by the British and American staff of lecturers to make it as thorough as possible, though the terminological difficulties are great. This annual grant-in-aid is a concomitant to the Government's action in bestowing a charter, by virtue of which it is to be given facilities for satisfying itself through its own official examiners that graduates have been put in possession of a competent knowledge of their profession. This is therefore really the dawn of the foundation of scientific medicine in China and it behoves medical men at home to watch with interest this endeavour of their British and American *confrères* to establish the profession in a way that has not been done before. Graduates will go forth with Government-stamped diplomas and their work will no doubt be appreciated by a people whose eyes are being daily opened to the ameliorating effects of Western civilisation just as has happened in Japan. A German medical school has recently been opened in Shanghai. At present a beginning has been made in the preliminary scientific work and in the teaching of German as the course will be conducted in that language. The enterprise is said to be well supported. The present members of the scientific staff are Professor du Bois Reymond, Professor Ammann, and Professor Schlinger.

Appointment of Foreign Medical Police Officers at Tientsin.

By sanction of Viceroy Yung Shih-hsiang, the Chief Commissioner of the Chinese city police has engaged foreign practitioners to act as medical advisers to the police, fire brigade, and public works department which up to the present have had no regular medical help. In addition, the Chief

Commissioner has issued orders requiring detailed reports about the sanitary condition of the people and the roads with a view to improve the health of the general public, especially during the coming hot weather. Tientsin is the commercial capital of North China and each of the foreign concessions in it has its own municipality and public health regulations but hitherto nothing in matters sanitary has been done in the densely populated Chinese city.

The Stamping-out of Opium Smoking.

I append a translation of the latest Imperial Edict on the opium habit to enable your readers to see for themselves the active efforts which the Chinese Court and Government are making to suppress a national vice.

IMPERIAL EDICT, 7TH APRIL.

Ching Hsin and Ting Shen-tao are appointed special commissioners in charge of the work of opium suppression. They are required to ascertain whether there are any officials either in Peking or the provinces still smoking opium, and to draw up regulations to deal with officials still guilty of this habit. Her Majesty the Empress Dowager has been informed that there are still some officials breaking the rule, and the Grand Council is hereby authorised to dismiss any official from the rank of Viceroy down who persists in smoking. The two above officials are held responsible in this matter and they are granted taels 30,000 for initial expenses of their work and to open their office, and taels 60,000 annually to maintain it. It is to be kept up until the opium habit is entirely stopped.

April 9th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Climatology of Australia.

Mr. Hunt, the Commonwealth meteorologist, has issued a report dealing with the above subject. Mr. Hunt considers that Australia is, by reason of its insularity and the absence of striking physical features, less subject to extremes of weather than are regions of similar area in other parts of the globe, and that, latitude for latitude, it is more temperate. The hottest area of the continent is situated in the northern parts of West Australia, about the Marble Bar and Nullagine goldfields, where the maximum shade temperature exceeds 100° F. for weeks continuously. The coldest area is in the extreme south-east of New South Wales and extreme east of Victoria, where in the region of the Australian Alps the shade temperature rarely if ever exceeds 100°. The average rainfall of Australian cities affords some surprising comparisons with other great world centres. London has an average 2 inches below that of Melbourne, Edinburgh 1·31 inches less, San Francisco 4 inches less, and Berlin about the same. Amsterdam, Christiania, Copenhagen, Paris, Moscow, St. Petersburg, and Stockholm are all below. The wettest Australian town is Geraldton, on the Queensland coast, where the average rainfall is 145 inches (maximum 211, minimum 69). Lake Eyre district in South Australia has an annual average of only five inches. Mr. Hunt thinks that the Australian "southerly buster" is of like character, and probably derived from similar atmospheric conditions, as the "bora" of Dalmatia, the "mistral" of France and the Gulf of Lyons, and the "pampero" of South America.

Children's Hospital, Sydney.

At the annual meeting of the supporters of the Royal Alexandra Hospital for Children Mr. C. P. B. Clubbe said he regretted that the hospital was not supported as it should be by the public. If the public would not support these institutions there must be a hospital tax imposed. Mr. Dorman, representing the Hospital Saturday Fund, said that the hospital certainly did not receive enough money from the Government. Recently there had sprung into existence a number of institutions calling themselves medical charities which were not fit to bear the name; many institutions which had proved their utility were languishing while funds were being diverted to these others. The public gifts should go through some channel by which they would be properly distributed.

Vital Statistics of Sydney.

During the quarter ended March 31st the metropolitan birth-rate was 6·26 per 1000 of population. The births numbered 3677. There were in the same period 1519 deaths, equal to a rate of 2·76 per 1000. This birth-rate is 7 per cent. and the death-rate is 5 per cent. higher than that of the corresponding period of 1907.

Infectious Diseases Hospital, Melbourne.

In 1891 it was decided to build a hospital for infectious diseases in Melbourne. The project lingered until 1897 when it was finally decided to build in commemoration of the Diamond Jubilee of the late Queen Victoria and to name the institution the Queen's Memorial Hospital. The hospital was largely designed under the supervision of the late Dr. D. A. Gresswell and cost £18,250. Its history up to the time of completion was a series of disputes and dissensions among its promoters and since it was opened about five years ago it has never given complete satisfaction. The design is faulty and only scarlet fever and diphtheria patients are admitted, with the result that there are never more than two-thirds of the beds in use. The management is in the hands of a committee representing the various municipalities which contribute to the up-keep. Patients may be charged in some instances as much as 7*s.* 6*d.* per day. The dissatisfaction with the position and general management of the hospital is likely to be brought forward prominently in connexion with a complaint by the father of a recent inmate that his child was sent home in a dirty state. The hospital authorities deny that there is any ground for the allegation, but Dr. Norris, chairman of the Board of Public Health, wrote to the medical superintendent to the effect that the statements call for a more extended reply. The Inspector of Charities has furnished a report to the Premier in which he stated that the brown appearance of the skin of the child on his discharge was naturally due to open-air treatment but that his head was clean on admission and subsequently required treatment. The report states that "the hospital authorities were undoubtedly to blame in handing the child over to its parents other than in a thoroughly clean condition." The inspector also remarked that while the hospital was doing good work it required to be extended and popularised. At present it was difficult to obtain admission and charges for maintenance were excessive.

Melbourne Hospital.

The trustees of the Wilson Estate, who offered £100,000 towards rebuilding the Melbourne Hospital, practically directed that it should be rebuilt on the present site and the committee has concurred. The trustees have now invited architects to communicate with them in order that they may suggest a name to the hospital committee as they are entitled to do so under the terms of the gift. The gentleman selected must be prepared to spend at least six months in visiting and examining the most modern hospitals in Europe and America.

Diagnosis of Fractured Skull.

Within the space of a few days three cases have come before the Melbourne city coroner in which the deceased person had been found drunk, taken to the lock-up, become seriously ill in the cells, removed to the Melbourne Hospital, and died. In the last case the subject had been seen at the hospital prior to being locked up and refused admission. The coroner has expressed his opinion that the initiation of a State public medical service at night deserved consideration. He produced a copy of a London journal which contended that "the time will come, we hope, when a medical man will be engaged to attend at all police stations in large towns to do duty for a certain number of hours and to diagnose doubtful cases, render skilled aid in cases of accident and sudden attacks of serious illness."

Juvenile Smoking.

At Dimboola, an up-country centre in Victoria, the first case under the new Act for the prevention of juvenile smoking was heard at the local police-court. A lad was summoned for having given a cigarette to a companion who was under the age of 16 years. The lad receiving the cigarette appeared, however, to be over the statutory age and had made a statement to that effect. The case was dismissed but the police magistrate improved the occasion by a severe lecture to the recipient of the gift for having told an untruth as to his age.

Medical Registration in Victoria.

A deputation consisting of members of the Medical Board, the Council of the British Medical Association (Victoria branch), and the Melbourne Medical Association, waited on the Chief Secretary to request an amendment in the present Act relating to medical registration. As the Act at present stands one homœopathic practitioner may be admitted each year in Victoria provided he holds a diploma from one of two specified American colleges and spends a year subsequent to graduation as resident at the Melbourne Homœopathic Hospital. It was thought at the time that this would insure a five years' training such as is insisted upon for all registrable qualifications, since the American colleges named provided a course extending over four years. It has been discovered that a student who attended some lectures in the University of Melbourne, but passed no examination, proceeded to America and returned in 11 months with an M.D. degree from one of the two institutions named in the Act, and which the Board had no option but to register. Sir Alexander Peacock replied to the deputation that he had been asked to hear the homœopathic view and that he would refer the question to the Cabinet for consideration.

Railway Disaster.

The most appalling railway accident yet experienced in Australia occurred at Braybrook Junction late on Easter Monday night, when a stationary train from Ballarat was overtaken and run into by an express from Bendigo. 41 persons were killed outright and two have since succumbed, while upwards of 70 others were seriously injured and more than 150 minor claims have already been notified. Complaint has been made as to the delay of the railway authorities in affording relief but this does not seem justified. The accident occurred eight miles from Melbourne at an outlying suburban station a few minutes before 11 o'clock at night. Within five hours all the injured persons had received first aid from medical men on the spot and had been forwarded to hospitals in the city. Although the débris was stated to have taken fire none of the casualties appeared to be due to burning.

May 3rd.

Obituary.

FRANCIS RUTHERFURD RUSSELL, M.D., C.M. EDIN., J.P.

BY the death of Dr. Russell, which took place recently at Guildford, that borough has lost one of its most respected and prominent citizens. Born in 1853 at Jedburgh, he received his medical education at Edinburgh and in Vienna. In 1878 he graduated M.B., C.M., at the University of Edinburgh and in 1880 obtained the M.D. degree. In this year he went to Guildford where he soon became popular among all classes of the community. In 1902 he was elected to the Guildford town council and was repeatedly asked to allow himself to be nominated as mayor, but his busy life prevented his consenting to receive the honour which his municipal colleagues were willing to confer upon him. In 1904 Dr. Russell was placed upon the commission of the peace for the borough of Guildford. At one time Dr. Russell was an officer in the 2nd Volunteer Battalion, The Queen's Royal West Surrey Regiment, and later became Brigade-Surgeon-Lieutenant-Colonel to the West Surrey Volunteer Infantry Brigade. He took a keen interest in all that concerned the Volunteers and at the time of his death was one of the military members of the Surrey Territorial Association. He held the Volunteer Officers' Decoration. He was surgeon to the Royal Surrey County Hospital and medical officer to the National Fire Brigades Union. Dr. Russell's unexpected death at the early age of 55 years has been felt with keen sorrow by his professional and lay colleagues no less than by the residents of Guildford and its neighbourhood, both rich and poor.

EXAMINATION FOR WOMEN HEALTH VISITORS AND SCHOOL NURSES.—Hitherto health visitors appointed by local authorities to carry out sanitary inspection and visiting have mostly prepared themselves for their duties by taking the examination for inspectors of nuisances. The council of the Royal Sanitary Institute have now decided to establish an examination for health visitors and school nurses. The syllabus includes general structure of the body, personal hygiène, air, water, food, clothing, the dwelling, elements of home nursing, care of infants and young children, prevention of communicable disease, first-aid, treatment of injuries, ailments and accidents, and statistics. The examinations will be held from June to December in 11 of the large towns in the United Kingdom. The fee is £2 2*s*. Full particulars can be obtained on application to the secretary, Royal Sanitary Institute, Margaret-street, London, W.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The election of a Representative on the General Medical Council, in place of Dr. D. MacAlister, will take place on June 9th in the Senate House from 12 to 1.—The following degrees were conferred on May 28th :—

M.D.—H. M. Davis, W. M. Fletcher, and J. S. Pearson, Trinity; E. D. Macnamara, Pembroke; F. H. Edgeworth, Gonville and Caius; and A. H. Style, Emmanuel.
M.B., B.C.—F. W. W. Griffin, King's.
M.B.—J. McIntyre, King's; and L. H. L. Mackenzie, Trinity.
B.C.—A. Wilkin, King's; P. H. Smith, Pembroke; E. G. Wheat, Christ's; and A. J. May, Sidney Sussex.

THE Medical Golfing Society will hold its 1908 tournament on June 18th at the Guildford Golf Club by kind permission of that club. Intending competitors should send the annual subscription of 4*s*. (which includes entrance to the tournament) to Mr. L. Eliot Creasy, honorary treasurer, Medical Golfing Society, 51, New Cavendish-street, London, W., and must notify their entry, stating lowest handicap, on or before Tuesday, June 16th, to Dr. T. B. Hyslop, honorary general secretary, Bethlem Royal Hospital, London, S.E. The following are the particulars of the competition: 18 holes match play *v.* bogey under handicap. Class 1, handicaps 12 and under; Class 2, handicaps over 12. No previous play allowed on the day. A first and second prize, and a prize for the best last nine holes *v.* bogey will be given in each class. Members of the Guildford Golf Club deduct 2 from their handicap. The "Henry Morris" challenge cup will be awarded for the best score against bogey under handicap and the winner will also receive the Medical Golfing Society gold medal. A foursome sweepstake will be arranged in the afternoon.

ROYAL SANITARY INSTITUTE, LONDON.—A sessional meeting of the institute will be held at the Parkes Museum on Saturday, June 13th, at 11 A.M., when a discussion will take place on "The Pasteurisation of Milk," to be opened by Professor H. R. Kenwood. In the afternoon a visit will be made to the Sudbury Park Dairy Farm (Wembley) and the Walker-Gordon Laboratories, by invitation of Mr. and Mrs. Titus Barham, who are entertaining the members at a garden party. Particulars of trains and arrangements are given on the invitation cards or can be obtained by applying to the institute. On Saturday, June 20th, a provisional sessional meeting will be held at St. Mary's Hall, Coventry, when a discussion will take place at 11 A.M. on "Some Aspects of the Housing Problem and Town Planning," which will be opened by Dr. E. H. Snell, medical officer of health, and Mr. J. E. Swindlehirst, city engineer, of Coventry. Tickets for admission of visitors may be had on application to Dr. Snell, public health department, 10A, Hay-lane, Coventry, who is acting as the local honorary secretary of the meeting, or they may be obtained from Mr. E. White Wallis, the secretary of the Institute, at the Parkes Museum, Margaret-street, London, W.

GLASGOW UNIVERSITY CLUB, LONDON.—The members and friends of this club dined together on May 29th at the Empire Rooms, Trocadéro Restaurant, London, W. Professor David W. Finlay was in the chair, and in the course of his speech proposing "The University and the Club" he referred to the sad loss which they had all suffered in the death of Lord Kelvin, whose office as president of the club had been filled by Lord Lister. He announced with satisfaction that the club had been surely and steadily progressing and owing to the energy and capacity of Dr. C. O. Hawthorne it now numbered nearly 400 members. He regretted that Dr. Hawthorne, after seven years' service as honorary secretary, had tendered his resignation which had been accepted with reluctance in a resolution putting on record the high appreciation of all concerned of the worth of the services which Dr. Hawthorne had rendered to the club. Sir Henry Craik, M.P., submitted the toast of "The Visitors," coupling with it the name of Dr. Sidney Coupland, who acknowledged the compliment in a few well-chosen words. Professor John M. Thomson gave the toast of "The Chairman," to which that gentleman made a suitable response, and the proceedings terminated. An interesting item in the annual report was the gift of 50 guineas by the club to the Glasgow University Students' Union Extension Fund.

University of Manchester.—Three lectures on Cancer (Pilkington Cancer Research) will be delivered by Dr. C. Powell White on Wednesdays, June 17th, 24th, and July 1st, at 4.30 P.M., in the general theatre of the medical school. The lectures will be fully illustrated by means of microscopic preparations, museum specimens, and lantern slides projected by the epidiascope. Members of the medical profession and students of medicine are cordially invited to attend.

Queen Charlotte's Lying-in Hospital.—H.R.H. Princess Alexander of Teck will open the extension of the Nurses' Home of Queen Charlotte's Hospital on Tuesday, June 30th. The original home, which was opened in 1899, provided for nearly 70 nurses and the extension will accommodate an additional 35. The new building also comprises a residential college for students, with accommodation for 16 students and qualified practitioners. A sum of £10,000 is still needed to open the extension free of debt, and donations towards this amount are earnestly asked for.

THE annual meeting of the South Wales and Monmouthshire branch of the British Dental Association was held at Merthyr Tydfil on May 22nd. Mr. E. Hugh Musgrove, L.D.S. Eng., the President, in the course of his address alluded to the beneficial results which would arise from the medical inspection of children in elementary schools and complimented the Merthyr Tydfil corporation upon putting the Act enforcing this inspection into force so thoroughly. Some interesting demonstrations were given by Mr. J. C. Oliver, L.D.S. Eng., Mr. J. T. Willows, L.D.S. Irel., and others. The dinner took place in the evening, Mr. Musgrove presiding.

University of Oxford.—Mr. A. F. Hertz, D.M., Magdalen College, assistant physician, Guy's Hospital, has been appointed lecturer in materia medica and medical pharmacology for the year beginning with the first day of Easter term, 1908.—Mr. J. B. Leathes, B.M., New College, lecturer in physiology, St. Thomas's Hospital, has been appointed a public examiner in animal physiology, to hold office from the first day of the Michaelmas term, 1908, to the first day of Michaelmas term, 1910.—The examination in materia medica and pharmacy has been transferred from the first to the second examination for the degree of Bachelor of Medicine and the subject will in future be entitled "Materia Medica and Pharmacology."—The annual dinner of the past and present members of the medical school will be held in University College on Saturday, June 20th. It is intended that this year the meeting shall take the form of a farewell dinner to Dr. Gustav Mann who is leaving Oxford to enter on his new duties as professor of physiology at New Orleans, U.S.A. The secretary of the dinner is Mr. C. F. Beevor, Magdalen College.

The Welsh Medical Dinner.—The Welsh Medical Society held its fifth annual dinner at the Criterion Restaurant on May 29th, Mr. Edmund Owen, the President, being in the chair. After the honouring of the loyal toasts, the chairman paid an eloquent tribute to the qualities of the Principality in giving the toast of "The Medical Profession and the University of Wales." Mr. Owen, amidst applause, in the course of his speech, announced his own nomination as the representative of the British Medical Association on the Medical Board of the University of Wales. In speaking of the solidarity of his native land he alluded to the united front with which the whole medical profession had supported two of his compatriots, Mr. Lynn Thomas and Mr. H. E. Skyrme, in their recent time of trouble. Dr. Emrys Jones replied to the toast, followed by Mr. Lynn Thomas, who in response to an urgent call thanked the profession in very feeling terms for the support which had been tendered to himself and his colleague. Dr. Lloyd Owen proposed "The Guests," for whom Dr. Ambrose responded, the last toast being "The Chairman," which was given by Mr. J. H. Morgan and drunk with musical honours. As was to be expected at a Welsh gathering, a programme of most admirably rendered vocal music contributed to the success of the evening, the artists being Miss Edith Evans, Miss Gwladys Roberts, and Mr. John Roberts, accompanied by Mr. E. T. Davies, F.R.C.O.; the songs included the Welsh anthem, "Fy Anwyl Hen Wlad," and "Galwad y Tywysog," and at the demand of the chairman, supported by the company, an addition was made to the official programme by Dr. Frederick Roberts who sang "The Anchor's Weighed" with all the sweetness and vigour which his friends know so well, to the great delight of the gathering. At the annual meeting of the society which preceded the dinner Dr. Lloyd Owen of Birmingham was elected President, Mr. Howell Evans honorary secretary, and Mr. D. L. Thomas honorary treasurer for the ensuing year. It is hoped that as the great National Eisteddfod will be held in London in 1909 the Welsh medical gathering will be the largest which has yet assembled.

The Llanelly Hospital.—The annual meeting of the subscribers to the Llanelly Hospital was held on May 29th. The medical report was satisfactory and the financial statement showed that the institution had a favourable balance. The contributions from working men amounted to £811, and this was supplemented by £239 from the employers. The annual fête which was held last year realised £283.

West London Post-Graduate College.—The annual dinner of the Post-Graduate College and past and present members of the West London Hospital will take place at the Trocadéro Restaurant, Piccadilly Circus, W., on Tuesday, June 23rd, at 7.30 P.M. The price of the dinner ticket is 7*s.* 6*d.* (exclusive of wine), and those desirous of attending can obtain tickets for themselves or their friends by applying to Mr. Aslett Baldwin, 6, Manchester-square, London, W., the honorary secretary of the dinner. The chair will be occupied by Mr. L. A. Bidwell, surgeon to the hospital and dean of the Post-Graduate College.

Durham University Medical Graduates' Association.—The summer dinner of the southern branch of this association was held on May 29th at the Imperial Restaurant, Regent-street, London, W., when 45 members and guests were present. The President of the association, Dr. Charles W. Chapman, occupied the chair. The toast of "The University" was proposed by the Rev. George Hilton, and acknowledged by Professor Sir George Hare Philipson; and that of "The Visitors" was responded to by Mr. R. A. Robinson, chairman of the London County Council, in a delightful speech. Excellent music contributed in no small degree to the success of a very pleasant evening.

Improvements in Rome.—Mr. C. C. Morgan, the British Consul, in his annual report, just received at the Foreign Office, states that the Royal Commission appointed some time ago to study and to report upon the important question of river communication between Rome and the sea has now adopted the scheme for dredging the Tiber to a depth sufficient to allow ordinary steamers to approach Rome. Sanction has been obtained for constructing a railway line from Rome to the sea-coast, but this is not intended so much to facilitate the conveyance of goods as to provide the inhabitants with the speedy means of getting to the seaside, especially during the summer months. The proposed railway will open a hitherto abandoned tract of land and will probably encourage speculators to build a small town on the coast as a summer resort. According to the general census of 1901 the resident and fluctuating population of the Province of Rome amounted to 1,196,909 inhabitants, as against 836,764 in 1871, an increase in round figures of 360,000 within 30 years. The latest calculation in January of last year showed a total of 1,278,000, the largest increase being in the city itself, to which newcomers are constantly attracted, an unmistakeable symptom of the progressive character of the Italian capital. The number of births of British subjects in Rome in 1907 was 4 (1 girl and 3 boys) and of deaths 28 (15 females and 13 males). The need of an Anglo-American club where visitors might congregate and find all necessary comforts and facilities having been realised, a committee of British and American gentlemen have raised among themselves the necessary funds to start one in Rome and it is to be inaugurated in the autumn. A suitable apartment has been already rented in the Piazza di Spagna, a favoured locality in the heart of the town. The sanitary conditions of Rome continue to improve and its death-rate (21·2 per 1000) compares most favourably with some of the other Italian towns. Malaria is no longer the scourge of the Italian capital and the few cases recorded in the hospital returns are imported from the country, where every possible effort is being made to stamp it out by prophylactic means and by extensive use of wire nettings applied to doors and windows so as to prevent mosquitoes from entering the houses. Quinine is also being freely distributed where most needed, and a squad of competent medical men travel across the "Campagna" during the summer months fighting a regular crusade against mosquitoes and malaria.

Dr. Donald W. C. Hood, C.V.O., has been nominated as a vice-president of the Royal Institution.

Association of Scottish Medical Diplomates.—The annual dinner of this association was held on May 26th at the Waldorf Hotel, Aldwych, London. The chair was occupied by Dr. David Walsh who, in proposing "The Association," said that it was formed to promote the general and professional interests of the Scottish diplomates. The association was now four years old and there was opening to it a great field of usefulness. The association attracted its members from all sections of the profession and rendered articulate the aspirations of the Scottish medical diplomates. Mr. J. G. Fitzgerald replied to the toast and Mr. Sydney Stephenson proposed "The Visitors" in an amusing speech, which was acknowledged by Dr. L. S. McManus and Dr. H. Macnaughton-Jones. Dr. McManus in the course of his remarks said that in his experience as a Direct Representative on the General Medical Council never before in the annals of that body had their Direct Representatives been more courteously received nor their wishes more thoroughly considered than at the present time. He believed that the General Medical Council was about to take a very important step towards setting its house in order and accepting the position of standing between the medical profession and the gross quackery that was rampant in the land. The toast of "The Council and Officers" was intrusted to Mr. P. H. Parsons and was replied to by Mr. Skene Keith. The evening concluded with a speech from Dr. H. W. Fitzgerald Powell proposing "The Ladies."

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Irish Universities Bill.

The progress of the Irish Universities Bill before one of the Standing Committees of the House of Commons is slow. It has not commended itself to several Unionist Members from Ulster and they have sought to have it amended in a direction more in harmony with their views. The fears which they have expressed are concerned with ecclesiastical considerations but so far they have not carried their points. On May 27th Mr. Charles Craig proposed a constitution for the new Dublin College which would give a place on the governing body to two representatives of the Royal College of Surgeons in Ireland and to two representatives of the Royal College of Physicians of Ireland in addition to various other representatives. However, the proposal was rejected by a large majority.

Juvenile Smoking.

The portion of the Children Bill dealing with juvenile smoking has now passed through the Standing Committee of the House of Commons Before the subject was exhausted Mr. Leif Jones drew the attention of the committee to smoking mixtures containing no nicotine which were sold. On analysis they were found to contain an irritant which after persistent smoking would cause throat trouble. Mr. H. Samuel, who is in charge of the Bill, shared the apprehensions of Mr. Leif Jones that dangers would ensue if these substances were ignored by the Bill. Ultimately the provisions of the Bill were extended so as to safeguard young persons from using them.

HOUSE OF COMMONS.

Wednesday, May 27th.

Whole-time Medical Officers of Health.

Mr. Brodie asked the President of the Local Government Board to state how many whole-time medical officers of health there were in England and Wales, exclusive of London, and how many of this number came up for periodical reappointment, and whether the Board was prepared to recommend the electing authorities of those who were re-elected periodically to appoint them without reference to time.—Mr. Burns (by written answer) replied: I can only give the information desired as regards cases in which the appointment is sanctioned by the Local Government Board, and thus it does not extend to medical officers of health appointed for counties or for the majority of county boroughs. There are 104 medical officers of health for districts outside London who give their whole time to the duties of that office either by itself or in conjunction with some other appointment of a public character. Of this number 75 are subject to periodic reappointment. The officers referred to include those who act for more than one district. The total number of districts for which they act is 315. The question of the tenure of office of these officers is receiving my attention, but I may state that in suitable cases it is already the practice of the Local Government Board to recommend local authorities to appoint their medical officer of health permanently or for a lengthened period.

The Pollution of the Ballybritt.

Mr. Reddy asked the Chief Secretary to the Lord Lieutenant of Ireland to say whether the Local Government Board had received representations protesting against the pollution of the River Ballybritt in county Tipperary; whether he was aware that a large population in this district were solely dependent for their water-supply for domestic purposes on this river; and in view of the danger to the health of the people residing in this district and the damage already done to the fish in the river, whether steps would be at once taken fully to enforce the provisions of the Public Health (Ireland) Acts against the persons who were causing this nuisance and danger to their neighbours.—Mr. Birrell furnished the following reply: The Local Government Board has received complaints to the effect stated, and the local medical officer of health has reported that a number of families are dependent for water on the river in question. It appears that the pollution of the river arises from sheep dipping, and the Board has been advised that pollution of this character is not covered by any of the Acts under which the sanitary authority can proceed. It is, however, open to the persons concerned to take legal proceedings for their own protection.

Ireland and the Poisons and Pharmacy Bill.

Sir Thomas Esmonde asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that the Poisons and Pharmacy Bill did not apply to Ireland; whether he was aware that this Bill gave power to county councils in England and Scotland to issue licences to traders other than chemists to sell such articles as sheep dips, weed killers, and other poisonous substances commonly used by farmers; and whether he would see that the Bill was extended to Ireland, in view of the fact that the necessity for relaxation of the restrictions imposed by the Act of 1868 was far greater in Ireland than in Great Britain.—Mr. T. W. Russell (who replied) wrote: The joint committee has at my instance inserted a clause for the application of this Bill to Ireland.

Tuberculosis in Ireland.

Mr. Devlin asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state if the recent campaign against tuberculosis in Ireland had resulted in the diminution of that disease, and, if so, to what extent; whether any, and how many, of the local authorities had undertaken organised action to combat the disease; and whether the Government proposed to introduce legislation on the subject embodying the recommendations of the leading Irish medical specialists as to the best means of prevention and cure of the disease.—Mr. Birrell gave the following written answer: It is too soon to form an estimate of the results accruing from the measures recently taken with a view to the prevention of tuberculosis. All the sanitary authorities in the county of Cork, some of those in county Dublin, and the Belfast corporation and board of guardians have already taken steps for the provision of sanatorium accommodation, and there is reason to believe that many other counties and cities are merely awaiting the promised legislation before taking similar steps. The measure to be introduced by the Government will embody the principles which are recognised to be the most effective that can be taken by local authorities for the prevention and cure of the disease.

Thursday, May 28th.

Importations of Fresh Milk.

Answering Mr. Brigg, Mr. Churchill (President of the Board of Trade) said: In January, 1908, the average quantity of fresh milk imported daily into England was 150 gallons, in February 150 gallons, and in March 48 gallons. There were no importations in April or in May to date. The whole of this milk was imported at Southampton.

Overcrowding in Oldham.

Mr. Clynes asked the President of the Local Government Board whether his attention had been drawn to a report presented to the last meeting of the Oldham Trades and Labour Council showing that, largely on account of extensive mill building in recent years, there was a great scarcity of suitable dwelling-houses for the working classes in the Oldham district, and alleging that more than 10,000 persons lived in a condition of overcrowding, and that many insanitary evils and a higher rate of infantile mortality had thereby resulted; and whether he could take action to press upon the local authorities of the district the necessity of immediately exercising municipal powers at present unused to insure a better supply of suitable houses and the erection of other premises on more methodical and improved lines.—Mr. Burns answered: I have seen a newspaper account of a meeting of the Oldham Trades and Labour Council held within the last few days at which the report mentioned was read. I do not gather whether the report has been sent to the town council of the borough, but if not this should be done at once. I will communicate with it on the subject to which it relates. I may add that if the Housing, Town Planning, &c., Bill now before Parliament becomes law, Part III. of the Housing of the Working Classes Act, 1890, which enables local authorities to provide houses and at present is only adoptive, will be put in force throughout the country and a statutory complaint can be made to the Local Government Board if the local authorities fail to exercise their powers under that part in cases where they ought to have been exercised and the Board would then be empowered to take action.

The Report of the Belfast Health Commission.

Mr. Devlin asked the Chief Secretary to the Lord Lieutenant of Ireland whether he had any power to compel the Belfast corporation to print and publish a sufficient number of copies of the Belfast Health Commission report to meet the public demand for the same; and if so, whether he would exercise that power in view of the complaints from all quarters as to the impossibility of obtaining copies of the report; and whether, in the meantime, he would order that a copy of the report be laid upon the table of the House.—Mr. Birrell replied: 250 copies of the report in question were printed at the expense of the Belfast corporation and of these the Local Government Board had 150, nearly all of which have been distributed amongst public bodies and interested persons. The corporation has declined to incur the expense of printing additional copies and I have no power to compel it to do so. As, however, the report is of general interest from the point of view of the public health I will lay it on the table at an early date.

The Public Abattoir in Belfast.

Mr. Devlin asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that the public abattoir in Belfast was a standing menace to the health of the city; that nine years ago a new abattoir was proposed and a loan of £30,000 for its construction sanctioned by the Local Government Board; but that, notwithstanding this, the corporation had not yet decided upon a site for the new abattoir; and whether, in view of these circumstances, the Local Government Board proposed to take any action in the matter.—Mr. BIRRELL furnished the following written reply: The Belfast Health Commission has reported unfavourably upon the situation of the abattoir and the insufficiency of its accommodation. A loan for a new abattoir was sanctioned nine years ago, but up to the present the corporation has not decided upon a site. The matter is one within the discretion of the corporation and the Local Government Board has no power to compel it to provide a proper abattoir; but it may, perhaps, be anticipated that the recommendation of the Commission will induce the corporation to take action in the matter.

MONDAY, JUNE 1ST.

Ruchill Fever Hospital.

Mr. WATT asked the Secretary for Scotland whether the resident medical officers at Ruchill Fever Hospital, Glasgow, had been dismissed because they drew the attention of the Local Government Board to evils which had been fully substantiated on public inquiry; and, if so, whether he would say what steps he proposed to take in the matter. —Mr. SINCLAIR replied: The resident medical officers at Ruchill Hospital were not dismissed because they drew the attention of the Local Government Board to the evils referred to. The dismissals were agreed upon by the sub-committee on hospitals on the grounds stated in its minute of Jan. 13th. I have no power to interfere with the discretion of the local authority.

Mr. WATT asked the Secretary for Scotland whether nurses had been dismissed and threatened with dismissal from Ruchill Hospital, Glasgow, on account of their having given evidence before the Local Government Commissioners; and, if so, whether he would, in view of the public necessity that those with knowledge of the facts be not in future intimidated from giving evidence in such cases, call the attention of those under his department to the unwisdom of such action.—Mr. SINCLAIR answered: I am not aware that nurses have been dismissed and threatened with dismissal from Ruchill Hospital on account of their having given evidence before the Commissioners but I am making inquiries.

Mr. WATT further asked whether the Commissioners of the Local Government Board who inquired into the charges of mismanagement at Ruchill, Glasgow, found that the resident medical officers were in no way to blame for what occurred; whether, notwithstanding this finding, these officers had been dismissed; and, if so, whether he would take steps to recommend their reinstatement.—Mr. SINCLAIR replied: The Commissioners did not find that the resident medical officers were responsible for the irregularities that formed the subject of inquiry; they were not dismissed on account of these irregularities but on other grounds; and, as already stated in reply to a previous question, I have no power to interfere with the discretion of the local authority in the matter of their dismissal.

Mr. WATT further asked the right honourable gentleman with reference to the public inquiry by his department into the charges of overcrowding and mismanagement in Ruchill Fever Hospital, Glasgow, whether it was the duty of the Commissioners appointed for this inquiry, in finding the charges well founded, to apportion the blame among the officials responsible; if so, whom did the Commissioners find responsible; and what had been done by the Local Government Board with regard to these officials to prevent a recurrence of the evil.—Mr. SINCLAIR furnished the following answer: The Local Government Board's remit to the Commissioners was "to inquire and report to them upon the complaints of overcrowding and understaffing of Ruchill Fever Hospital and on the administration and management of the hospital." The conclusions of the Commissioners will be found in their report, which has been issued as a Stationery Office paper. The main responsibility was declared to rest on the medical superintendent, but as regards overcrowding it was shared to some extent by the medical officer of health and, as regards understaffing, by the matron. The report was sent to the local authority which has now dealt with the officials responsible.

Mr. WATT asked the Secretary for Scotland whether his attention had been called to the fact that on some days in December, 1907, there were over 800 patients in Ruchill Fever Hospital, Glasgow, although the authorised maximum allowed is only 440; whether his department had traced who brought about this overcrowding; and what arrangement had it made to see that the statutory duty of the local authority to make provision for all cases of infectious diseases was carried out without giving rise to excessive overcrowding. Mr. SINCLAIR replied: The report of the Commissioners appointed by the Local Government Board shows that on certain days there were over 800 patients in Ruchill Hospital. The majority of the patients were children and the authorised number allowed is 440 adults. The responsibility for the overcrowding is dealt with in the preceding question. It lies with the local authority to make provision for such cases and to exercise all reasonable prevision in the matter.

TUESDAY, JUNE 2ND.

Cancer Research.

Captain FABER asked the Prime Minister whether, with reference to the meeting held in Berlin on May 23rd with the object of founding an international association for the prosecution of cancer research, he would promise the assistance of this country in that direction.—Mr. ASQUITH answered: No, sir; as at present advised I am not disposed to give such a promise as the honourable member suggests. The Imperial Cancer Research Fund, which is supported by Government, is doing all it can in the encouragement of individual intercourse and exchange of material between investigators of different countries.

WEDNESDAY, JUNE 3RD.

Medical Referees.

Mr. HILLS asked the Secretary of State for the Home Department how many medical referees were appointed under the Workmen's Compensation Act prior to the Act of 1907 coming into force; how many references were referred to each such referee; how many times the county court judges had asked such medical referees to act as assessors with them or called them in to advise them as to their judgments; and had the Channel Islands, and Guernsey in particular, refused to adopt the Act.—Mr. GLADSTONE furnished the following written reply: If I understand the first part of the honourable Member's inquiry rightly, he desires to know how many medical referees have been appointed for the purposes of the Workmen's Compensation Act, 1906. The number is 343. The total number of references made to referees in the nine months from July 1st, 1907, the date on which the Act of 1906 came into force, up to March 31st last, the latest date for which figures are available, is 189. Of these references 12 were made under Section 8 of the Act, 28 under paragraph (15) of Schedule I., and 149 under paragraph (15) of Schedule II. The number of cases during the same period in which referees have been summoned to sit as assessors is 33. The States of both Jersey and Guernsey have deliberated on the question of enacting legislation for the islands on the lines of our Act of 1906, but in both cases the proposal was rejected.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALEXANDER, F. J., M.B., C.M. Aberd., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

BERKELEY, COMYNS, M.B., B.C. Cantab., has been appointed Obstetric Physician to the Middlesex Hospital.

BONNEY, W. F. VICTOR, M.S., M.D. Lond., F.R.C.S. Eng., has been appointed Assistant Obstetric Physician to the Middlesex Hospital.

CAMPBELL, JANET M., M.D., B.S. Lond., has been appointed a Member of the Medical Department of the Board of Education.

FAIRCLOUGH, W. A., M.B., Ch.B. New Zeal., M.R.C.S., L.R.C.P., has been appointed House Physician at the Evelina Hospital for Sick Children, Southwark, S.E.

FARQUHARSON, DAVID A., M.B., C.M., F.F.P.S. Glasg., has been appointed to the Chair of Physiology in the Royal (Dick) Veterinary College, Edinburgh.

GARDINER, PETER, M.D., C.M. Glasg., D.P.H. Lond., has been appointed Medical Officer to the Camborne (Cornwall) Nursing Association.

GLENDINNING, B., M.B., B.S. Durh., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

HANNIGAN, T. H., L.R.C.S. Irel., L.K.Q.C.P. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Drumcollogher District of the county of Limerick, Ireland.

HAWKER, GEORGE POOLE DAVID, M.B., B.C. Cantab., has been appointed Medical Officer to the Exeter Dispensary.

HOLLAND, EARDLEY LANCELOT, M.D. Lond., F.R.C.S. Eng., M.R.C.P. Lond., has been appointed Assistant Physician to the City of London Lying-in Hospital.

JONES, F. EMRYS, L.M.S.S.A., has been appointed Resident Pathologist at the Birmingham General Hospital.

LEIGHTON, G. R., M.D. Edin., F.R.S.E., has been appointed Professor of Pathology and Bacteriology at the Royal (Dick) Veterinary College, Edinburgh.

LLOYD, DAVID GEORGE, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Newcastle-Emlyn Workhouse, Medical Officer and Public Vaccinator for the Cenarth District by the Newcastle-Emlyn (Carmarthenshire) Board of Guardians, and Medical Officer of Health by the Newcastle-Emlyn Rural District Council.

MONTESOLE, M. HERSCHEL, L.R.C.P. Lond., M.R.C.S., has been appointed Junior Obstetric House Physician at St. Thomas's Hospital.

RAMSAY, JEFFREY, M.B., B.S. Lond., has been appointed Junior House Surgeon at the Blackburn and East Lancashire Infirmary.

RENTON, JOHN W., M.B., Ch.B. Glasg., has been appointed Anæsthetist to the Western Infirmary, Glasgow.

ROBERTS, W. EDGAR, M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon at the Macclesfield General Infirmary.

ROWNTREE, S. J., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

STEWART, A. H., M.B., M.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Queensbury District of the county of York.

THOMAS, JOSIAH TELFER, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Camborne (Cornwall) Nursing Association.

TONKING, JOHN HERBERT, M.B. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Camborne (Cornwall) Nursing Association.

WALKER, CYRIL H., M.B. Cantab., F.R.C.S. Eng., has been appointed Additional Lecturer on Ophthalmology in the Faculty of Medicine of University College, Bristol.

WILLETT, J. ABERNETHY, M.D. Oxon., M.R.C.P. Lond., M.R.C.S., has been appointed Assistant Physician to the City of London Lying-in Hospital.

WOODS, F. W., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Birr District of King's County, Ireland.

WRIGHT, J. A., M.D. Cantab., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

YEARSLEY, MACLEOD, F.R.C.S. Eng., has been appointed Lecturer on Anatomy and Physiology to the Ealing Training College for Teachers of the Deaf.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Alton, Hants, Lord Mayor Treloar Cripples' Home and College.—Resident Medical Officer. Salary £150 per annum.

Aylesbury, Bucks County Lunatic Asylum, Stone.—Senior Assistant Medical Officer. Salary £175 per annum, with board and apartments.

Aylesbury, Royal Buckinghamshire Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Bangor, Carnarvonshire and Anglesey Infirmary.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

Bath, Royal Mineral Water Hospital.—Resident Medical Officer. Salary £100 per annum, with lodging, board, and laundry.

Bexley, Kent, London County Asylum.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, and washing.

Bridgwater Hospital.—House Surgeon, for six months. Salary at *rate of £80 per annum, with board, lodging, and washing.*

Bristol Royal Hospital for Sick Children and Women.—Assistant House Surgeon for six months. Salary £50 per annum, with board, rooms, and attendance.

Burton-on-Trent Infirmary.—House Surgeon. Salary £120 per annum, with rooms, board, coals, and light free.

Carmarthenshire Infirmary.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, &c.

Chelsea Infirmary, Cale-street, S.W.—Second Assistant Medical Officer. Salary £100 per annum, with board, washing, apartments, &c.

Cheltenham Education Committee.—Two Medical Inspectors of School Children. Salary £100 each per annum.

Chester, City of.—Assistant Medical Officer of Health. Salary £250 per annum.

City of London Hospital for Diseases of the Chest, Victoria *Park, E.—House Physician for six months. Salary at rate of £50* per annum, with board, washing, and residence.

City of London Lying in Hospital, City-road, E.C.—Honorary General Physician.

Coventry and Warwickshire Hospital.—Junior House Surgeon for six months. Salary at rate of £60 per annum, with rooms, board washing, and attendance.

Crewe, Borough of.—Medical Officer of Health. Salary £400 per annum, rising to £500.

Derby, Derbyshire Royal Infirmary.—Assistant House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and washing.

Dumfries and Galloway Royal Infirmary.—Assistant House Surgeon. Salary £55 per annum, with board and lodging.

Fulham Infirmary, St. Dunstan's-road, Hammersmith, W.—Second Assistant Medical Officer for six months. Salary at rate of £100 per annum, with board, apartments, and washing. Also Locum Tenens for two months. Salary at rate of £4 4*s.* per week, with board, apartments, and washing.

Hampstead General Hospital and North-West London Hospital.—House Physician for six months. Salary at rate of £70 per annum, with board and residence.

India, Ludhiana, Punjab.—Two Physicians (females).

Indian Medical Service.—Examination for 20 Commissions.

King Edward VII. Sanatorium, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and attendance.

Leicester Infirmary.—Assistant House Physician. Salary at rate of £50 per annum, with board, apartments, and washing.

Lichfield, *County Asylum, Burntwood.—Junior Assistant Medical* Officer, unmarried. Salary £150 per annum, with board, lodging, attendance, and washing.

Liverpool Dispensaries.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

Liverpool Infectious Diseases Hospital.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

Liverpool Infirmary for Children.—House Surgeon. Salary £100 per annum, with board and lodging.

Liverpool Stanley Hospital.—Honorary Ophthalmic Surgeon. Also Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

Liverpool, University of.—Chair of Therapeutics.

London County Council.—Inspector under the Midwives Act, 1902 (female). Salary £175, rising to £300 per annum.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £175 per annum, with *quarters, attendance,* washing, &c.

Manchester Eye and Ear Hospital, 25, St. John-street, Deansgate.—Medical Officers for the Examination of School Children. Also Clinical Assistants.

Manchester Royal Infirmary, Convalescent Hospital, Cheadle.—Assistant Medical Officer, unmarried, for five months. Salary at rate of £80 per annum, with board and residence.

Manchester, St. Mary's Hospitals for Women and Children.—Resident Surgical Officer. Salary £100 per annum, with board and residence.

Metropolitan Hospital, Kingsland-road, N.E.—Assistant Surgeon for Diseases of Women.

Miller General Hospital, Greenwich-road, S.E.—Physician to In-Patients. Also Surgeon to In-Patients. Also Junior House Surgeon for six months. Salary at rate of £80 per annum.

Newport and Monmouthshire Hospital.—Third Resident Medical Officer. Salary £60 per annum, with board, residence, and laundry.

Northampton, County Borough of.—Assistant Medical Officer of Health. Salary £200 per annum, rising to £250.

Norwich City Asylum, Hellesden-next-Norwich.—Assistant Medical Officer, unmarried. Salary £150, rising to £180 per annum, with rooms, board, and attendance.

Oldham, County Borough of.—Assistant Schools Medical Officer. Salary £200 per annum, rising to £260.

Poplar and Stepney Sick Asylum, Bromley, E.—Second Assistant Medical Officer. Salary £100 per annum, with rations, apartments, and washing.

Portsmouth Borough Asylum.—Assistant Medical Officer, unmarried. Salary £150, *rising to £200 per annum,* with board, lodging, and washing.

Prince of Wales's General Hospital, Tottenham, N.—Junior House Physician. Salary £40 per annum, with residence, board, and laundry.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—House Physician for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

Rangoon Municipality.—Health Officer. Salary Rs.1000, *rising to* Rs.1500 per mensem.

Royal Free Hospital, Gray's Inn-road, W.C.—Junior Obstetric Assistant for six months. Board, lodging, and laundry provided. Also Clinical Assistants, all females.

Royal Waterloo Hospital for Children and Women, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

St. Mary's Hospital, Paddington, W.—Resident Casualty House Surgeon. Also Resident Assistant Anæsthetist. Both for six months. Salary in each case at rate of £100 per annum, with board and residence.

Salford, County Borough of, Education Committee.—Assistant Medical Officer. Salary £350 per annum, rising to £500.

Shrewsbury, Salop Infirmary.—House Physician. Salary at rate of £60 per annum, with board and apartments.

Southampton, Royal South Hants and Southampton Hospital.—Junior House Surgeon for six months. Salary at rate of £60 per annum, with rooms, board, and washing.

Syria, Lebanon Hospital for the Insane, Asfuriyeh.—Medical Superintendent. Salary £300 per annum and house.

Warwickshire *County Council.*—Two Medical Inspectors of Elementary School Children. Salary in each case £250 per annum.

West-End Hospital for Diseases of the Nervous System, &c., 73, Welbeck-street, W.—Resident Medical Officer for six months, renewable. Salary at rate of 50 guineas per annum, with residence, board, washing, and attendance.

West London Hospital and Post-Graduate College, Hammersmith-road, W.—Clinical Assistants, also Casualty Officers.

Western Australia, Hospital for the Insane.—Senior Assistant Medical Officer, unmarried. Salary £380, rising to £405 per annum, with board, lodging, washing, fuel, and light. Also Junior Assistant Medical Officer. Salary £285, rising to £315 per annum, with board, lodging, washing, fuel, and light.

Western General Dispensary, Marylebone-road, N.W.—Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

Weston-super-Mare Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £80 per annum, with apartments, board, and laundry.

Wolverhampton and Staffordshire General Hospital.—Resident Medical Officer. Salary £100 per annum, with board, lodging, and laundry. Also House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

The Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as *Certifying Surgeon* under the Factory and Workshop Act at Downham Market, in the county of Norfolk.

Births, Marriages, and Deaths.

BIRTHS.

Barradell-Smith.—On May 24th, at London-road, South Lowestoft, the wife of S. Barradell-Smith, M.B., B.C., of a son.

Bawtree.—On May 27th, at the Lodge, Malden, Essex, the wife of Frank Bawtree, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

Beale.—On May 31st, the wife of Hanway Beale, M.D. Lond., of Retford, of a daughter.

Wilson.—On May 22nd, at Chevening-road, London, N.W., the wife of Thomas Wilson, F.R.C.S., of a son.

DEATHS.

Nunes.—On June 1st, at Llandrindod Wells, Herbert FitzStephen Nunes, L.R.C.P., M.R.C.S., in his 42nd year.

Overton.—On May 31st, suddenly, at Bradford-road North, Huddersfield, Arthur Overton, M.R.C.S., L.R.C.P., aged 46 years.

Purvis.—On May 29th, at Lansdowne-place, Blackheath, Prior Purvis, M.D. Lond., aged 95 years.

Richards.—On May 29th, at his residence, 150, West Hill, Putney, S.W., Samuel Atkinson Richards, L.R.C.P., M.R.C.S., L.S.A., in his 76th year. Interred in Norwood Cemetery.

Ridge.—On May 25th, at Carlton House, Enfield, Middlesex, John James Ridge, M.D. and M.D. (State Medicine), B.A., B.S., B.Sc. Lond., aged 61 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

WAKLEY v. MACAURA.

ON May 5th last the proprietors of this journal commenced an action against Mr. G. J. Macaura for damages sustained by them in their business as proprietors and publishers of THE LANCET by reason of the use of the name of THE LANCET without their authority and by reason of the publication by Mr. Macaura of (*a*) a poster headed "The Steel Doctor," posted on or about March 24th, 1903, on a hoarding at the corner of Edmund-street and Broad-street, Birmingham, and elsewhere in Birmingham; (*b*) a publication called "Dr. Macaura's Health Record," published on or about March 24th, 1903, in Birmingham; (*c*) a pamphlet called "The Book of Health" published on or about March 24th, 1903, in Birmingham; (*d*) two leaflets issued with the said "Book of Health," which documents contained (*inter alia*) extracts from a reference made in this journal to a certain massaging machine. There was also a claim in the alternative to the above for damages for libels contained in the said poster, publication, pamphlet, and leaflets. In addition to the above an injunction was claimed to restrain Mr. Macaura, his agents, and servants from further writing, printing, circulating, distributing, or otherwise publishing the said poster, publication, pamphlet, and leaflets or any of them and from using the name of THE LANCET without the authority of the proprietors of this journal, and from further writing, printing, circulating, distributing, or otherwise publishing the said libels or any further or other libels affecting their business as proprietors of THE LANCET.

On May 8th last, before Mr. Justice Ridley in King's Bench Judges' Chambers, Mr. Macaura by his counsel undertook that until the trial of the action he would not make use of the name of THE LANCET, and this undertaking has since by consent been made perpetual. In these circumstances the proprietors of this journal have decided not to proceed any further in the matter.

A HOSPITAL EXONERATED.

THE rules and regulations of the Royal Mineral Water Hospital at Bath have been inquired into by a coroner's jury at West Lavington in Sussex. An old man named Edmund Ellcombe, aged 72 years, had been in the hospital for the special treatment provided there. By his own request, and without making any complaint whatsoever, Ellcombe was allowed to leave the institution before the course of baths had been completed and on a day other than that specified by the rules of the institution. On the journey home, a journey necessitating many changes of trains and delays at stations, Ellcombe contracted double pneumonia, and, to his friends, complained of the treatment which he received at Bath. However, after two lengthy sittings and having heard the resident medical officer and the head nurse from Bath the jury, on May 19th, exonerated the Royal Mineral Water Hospital.

A REMARKABLE SPECIMEN.

To the Editor of THE LANCET.

SIR,—An interesting and remarkable specimen, unfortunately now too dried to be preservable, has just been presented to me by patients of mine at Boreham Wood. On breaking a hen's egg obtained from Bullbaiters Farm there they found within it a tape-worm. The worm is complete and measures about two inches in length.

I am, Sir, yours faithfully,

HENRY BAZETT.

Hendon, May 25th, 1903.

THE THERAPEUTIC APPLICATIONS OF BETA-NAPHTHOL.

IN a recent number of the *Bulletin des Sciences Pharmacologiques* M. Ed. Desesquelle contributed a useful review of the therapeutic applications of beta-naphthol. It has been given internally with success as a gastro-intestinal antiseptic but it occasionally causes gastric disturbance. On this account it is preferable to administer it with sodium bicarbonate which lessens its irritating action on the gastric mucous membrane. In this form daily doses of 45 grains of beta-naphthol have been given in enteric fever without producing ill effects. In pulmonary tuberculosis good results have been obtained by intra-pulmonary injections of an emulsion containing five grains of beta-naphthol administered once a week. In furunculosis and anthrax benefit has been derived from the internal administration of daily doses of 15 grains, the treatment being associated with a vegetarian diet, with eggs and milk (*le régime ovo-lacto-végétarien*). M. Desesquelle recommends the use of beta-naphthol as an antiseptic in obstetric and in surgical practice. In the form of a 10 per cent. ointment or solution it is valuable in the treatment of acne, eczema, psoriasis, pityriasis, and many other skin affections; it may be combined with sulphur, zinc oxide, camphor, acetic acid, or resorcin. Internally, it is compatible with the salicylates, subnitrate and benzoate of bismuth, sodium bicarbonate, the oxide and carbonate of magnesium, calcium carbonate and phosphate, vegetable charcoal, and menthol. It is incompatible with mercuric chloride, producing from aqueous solutions a precipitate containing mercury. When prescribed in the form of a dusting powder care should be taken not to combine beta-naphthol with camphor, phenol, or menthol, or a liquid product will be formed. Beta-naphthol is contra-indicated in cases of renal insufficiency and where there is a deficiency of pepsin as it is likely to cause acute nephritis. Two cases have been met with in which the application of a 2 per cent. ointment for a cutaneous affection produced albuminuria, one case proving fatal. In its antiseptic properties beta-naphthol compares favourably with mercuric chloride. Investigations of the bactericidal action of beta-naphthol on staphylococcus pyogenes aureus showed that in dilutions of 1 to 3200 growth was inhibited for 24 hours and that a 1 in 2500 solution completely arrested all development.

CHANTECLAIR.

WE have received an advertisement, entitled "Chanteclair," which is published by "La Carnine Lefrancq," a company for the sale of a beef juice which has its headquarters apparently at Romainville and 73, Faubourg St. Denis, Paris. The pamphlet is composed of brief biographical notices of Professor Charles Richet and Dr. Jules Héricourt, between which are sandwiched some 30 letters from French medical men relating the "resurrections" and "unhoped," "remarkable," and "marvelous" (*sic*) results which have been obtained by the use of "Carnine Lefrancq." The thoroughly objectionable feature, however, of what would otherwise be only the ordinary advertising circular is two caricatures of Professor Richet and Dr. Héricourt respectively, purporting to show them engaged upon their scientific work. The pictures, if not so absurd, are almost as revolting as those published by anti-vivisectionist bodies. The fact that Professor Richet and Dr. Héricourt do not consider themselves deeply wronged by these caricatures will aid the more rabid anti-vivisectionists to treat the caricatures as representations of fact. The attitude of Professor Richet and Dr. Héricourt, which is one of good-natured contempt for the ignorance of those who can be moved to any sort of feeling by such rubbish as these caricatures, is one that it is easier for French than for English men of science to maintain. The French physiologist has not the same malignant stream of calumny for ever turned upon his work.

ST. ANN'S WELL, HOVE.

THE municipal authorities of Hove are to be congratulated on having acquired for the benefit of the residents in that part of what really is the town of Brighton the old Wick chalybeate spring and grounds. It would have been a pity had this picturesque rural spot passed into builders' hands. None of the open spaces in Hove can compare with this latest acquisition; it is the only naturally-wooded spot in the borough. And this beauty spot is one of considerable historic interest. In the middle of the eighteenth century a mineral spring was discovered there and it was described in a work published by Dr. Anthony Relhan in 1761, shortly after he succeeded the famous Dr. Richard Russell as Brighton's leading physician. Some years later Dr. Henderson confirmed Dr. Relhan's opinion as to the water being a valuable specific in certain complaints, and in 1805 Dr. Alexander Marcet of Guy's Hospital issued a pamphlet in which he described the water as presenting a solution of emetic tartar and a quantity of calcareous earth mixed with vitriolic acid and iron, giving it an inky taste. It was not long before the spring was the resort of fashion, and it is on record how Queen Adelaide used to "drive up to drink the waters at the chalybeate, a sort of Spa," and Mrs. Fitzherbert writing and telling a friend of the "very essential benefit I have derived from drinking the waters of the chalybeate at the Wick, Brighton." For a time the spring seems to have lost its old prestige and it was not until about 30 years ago, when the late Dr. William Bayes of Hove contemplated establishing a "hydro" there, that there seemed a possibility of the spring becoming serviceable again. Dr. Bayes had the water analysed by the late Mr. Wanklyn of Westminster, who reported unfavourably. The source of contamination was discovered and removed and Mr. Wanklyn's second report was most favourable. But Dr. Bayes died suddenly and the project was not proceeded with further. He had, however, renamed the place St. Ann's Well—the reason for which is by no means clear—a name that remains to this day. The well-house is at present closed. The authorities have not yet had time to mature any plans for the future, but whatever may be decided upon the first step will be to insure that the water is free from contamination.

WHITSUNTIDE HOLIDAYS ON THE CONTINENT.

THE Great Eastern Railway is issuing return tickets at reduced fares to Brussels, viâ Harwich and Antwerp. Passengers leaving London in the evening reach Brussels next morning after a night's rest on board the steamer. For visiting The Hague, Scheveningen (the Dutch Brighton), and Amsterdam for the old-world cities of the Zuyder Zee special facilities are offered viâ the company's British Royal Mail Harwich-Hook of Holland route. A corridor train, with vestibuled carriages, dining and breakfast cars, is run on the Hook of Holland service between London and Harwich. From the Hook of Holland through carriages and restaurant cars are run in the North and South German express trains to Cologne, Basle, and Berlin, reaching Cologne at noon and Basle and Berlin in the evening.

T. B. U.—The scale of fees in such circumstances wants altering considerably while no uniform method of charge exists to which we can refer our correspondent. We think that the patient might well pay some small fee. The statutory fee in the Poor-law service for amputations of fingers or toes being £2, the patient would hardly consider it harsh if he were charged a guinea.

Physician.—The question of the one-portal system has been debated over and over again in our columns. The conveniences have been pointed out in much the words used by our correspondent who has, however, taken no account of the objections.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, W. J. Gow): at 7.45 P.M.

Specimens:

Mr. J. D. Malcolm: (1) A Uterus with Cancer of the Cervix removed by Wertheim's method; (2) A Cystic Ovary and Hydro-salpinx removed from a Woman aged 58 years.

Dr. T. W. Eden: A Case of Bilateral Papillary Carcinoma of the Ovary.

Dr. Cuthbert Lockyer: (1) Sarcoma of the Uterus; (2) Tubal Gestation with Unusual Pathological Features.

Dr. J. F. McCann: (1) Grape-like Sarcoma of the Cervix; *(2)* Bilateral Tuberculous Salpingitis.

Short Communications:

Dr. Kedarnath Das: Gastroschisis.

Papers:

Dr. J. H. Teacher: *The Embedding and Development of a very* Young Human Ovum.

Dr. J. W. Munro Kerr: Clinical History and Microscopical Description of an Early Ovarian Pregnancy.

FRIDAY.

LARYNGOLOGICAL SECTION (Hon. Secretaries—W. Jobson Horne, H. S. Barwell): at 5 P.M.

Cases and Specimens:

Dr. Watson Williams: (1) A Case of Malignant Growth of the Septum and Naso-pharynx removed by an External Osteoplastic *Operation; (2) A Case of Laryngeal Disease for* Diagnosis; (3) Skiagrams of the Accessory Sinuses.

Dr. Herbert Tilley: (1) Specimen of a Large Post nasal Polypus removed from a Boy aged 14; (2) Spectroscope Slide showing well-marked Development of the Orbito-ethmoidal cells; (3) A Case of Subglottic Hyperplasia with considerable Narrowing of the Tracheal Air-way.

Mr. Clayton Fox: A Case of Paralysis of the Right Vocal Cord in a Man with Myopathia.

Mr. S. V. Cargill, Mr. William Turner, Dr. StClair Thomson: Orbital Cellulitis, Abscess of Left Frontal Cerebral Lobe, consequent on Acute Left Frontal Sinusitis; Operation; Cure.

Dr. StClair Thomson: (1) Radiographs of the Sphenoidal Sinus; (2) Cases of Submucous Resection of the Nasal Septum.

Mr. Stuart-Low: A Case after Operation for Angina Ludovici.

Dr. Dan McKenzie: A Case of *Malignant Disease* of the Larynx.

Dr. Jobson Horne: Preparations demonstrating the Exhibitor's Explanation of the Development of the Characteristic Appearances of Pachydermia Laryngis.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

The Annual Meeting for the Election of Officers and Members of Council for the ensuing session will be held the same afternoon at 4 P.M.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Mr. Lawford, Mr. Winfield-Roll, and others: Card Cases. 8.30 P.M., Mr. P. E. H. Adams: An Epidemic of Contagious Conjunctivitis due to the Pneumococcus. *Mr. E. Nettleship: (1)* Senile Cataract in Husband and Wife, Condition of Lenses in Children and Grandchildren; (2) Lamellar Cataract, Discoid ("Coppock") Cataract and Retinitis Pigmentosa in the same Family; (3) *A Colour-blind Family. Lieut.*-Col. H. Herbert: (1) Lower Corneal Plaques; (2) A Factor in the Production of Parenchymatous Xerosis.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

THURSDAY.—8.30 P.M., Lieut.-Col. H. E. Deane (R.), R.A.M.C.: A Plea for a More Detailed Study of the Soldier's Heart.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

TUESDAY.—4 P.M., Dr. H. Campbell: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. Collier: The Treatment of Neuritis.

WEDNESDAY.—4 P.M., Mr. L. Mummery: Clinique (Surgical) 5.15 P.M., Lecture: Dr. H. French: Points in connexion with *Intercurrent Medical* Illnesses during Pregnancy.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical) 5.15 P.M., *Lecture:—Prof.* T. Hewlett: The Diagnosis of Syphilis, &c., by the Antigen Method.

FRIDAY.—4 P.M., Mr. R. Lake: Clinique (*Ear*).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-*road*, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., *Operations.*

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Throat, Nose, and Ear Diseases. 2.30 P.M., Operations. Dr. Abraham: Skin Diseases. 5 P.M., Lecture:—Dr. Pritchard: The Diagnosis and Treatment of Arterio-sclerosis.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: *Diseases of the Eyes.* 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—2 P.M., Medical and Surgical Clinics. *X Rays. Mr.* Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical *Clinics.* X Rays. Dr. Davis: *Throat,* Nose, and Ear Diseases. 2.30 P.M., Operations. Dr. Abraham: Skin Diseases. 5 P.M., Lecture:—Dr. Abraham: Cases of Skin *Disease.*

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations on Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. *Dr. Scott:* Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: *Diseases* of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Medical Out-patient (Dr. Whipham); Nose, Throat, and Ear (Mr. Carson); *X Rays. 4.30* P.M., *Medical* In-patient Clinic (Dr. Whiting).

TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Clinics:—Surgical (Mr. Edmunds); Gynæcological (Dr. Giles). 4.30 P.M., Special *Demonstration of Selected Medical Cases* (Dr. G. P. Chappel).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. Whipham); Skin (Dr. Meachen); Eye (Mr. Brooks).

THURSDAY.—2.30 P.M., Special Demonstration of Gynæcological Operations (Dr. Giles). Clinics:—Medical Out-patient (Dr. Whiting); Surgical (Mr. Carson); *X Rays.* 3 P.M., Medical In-patient (Dr. Chappel). 4 30 P.M., Throat Operations (Mr. Carson).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). *Clinics:*—Medical Out-patient (Dr. Auld); *Eye (Mr. Brooks).* 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, *Dreadnought* Hospital, Greenwich.

MONDAY.—2.15 P.M., *Sir Dyce Duckworth:* Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Mr. L. A. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., *Operations. 3.15* P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 2 15 P.M., Special Lecture:—Dr. Taylor: Jaundice.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient *Demonstrations:—10* A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. McGavin: The Radical Cure of Complete Procidentia Uteri.

SATURDAY.—2.30 P.M., Operations. Out-patient *Demonstrations:*—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

FRIDAY.—3.30 P.M., Lecture:—Dr. Tooth: *Multiple Neuritis.*

ROYAL INSTITUTE OF PUBLIC HEALTH, Theatre of the Institute, 37, Russell-square, W.C.

WEDNESDAY.—5 P.M., Harben Lecture:—Prof. G. H. F. Nuttall: Ticks, their Biology and Structure.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH 1, Upper Montague-Street, Russell-square, W.C.

TUESDAY.—3 P.M., Opening Meeting. Dr. J. Kerr: Address. An Exhibition of Appliances, Outfits, Record Systems, Office Requisites, &c., will be open daily from 10 A.M. to 6 P.M.

WEDNESDAY.—11 A.M., Lecture:—Dr. C. J. Thomas: Medical Inspection. 2 P.M., Visit to Schools. *5.30* P.M., *Lecture:*—Dr. Shrubsall: Anthropometry. Dr. Shrubsall: Physical Exercises.

THURSDAY.—10 30 A.M., *Dr. Kerr:* Demonstration of Special Cases. 11.30 A.M., Dr. Thomas: Office Routine, Ringworm Examination, &c. Visits to Schools. 2.30 P.M., Lecture:—Dr. Kerr: Eyes and Ears. 3.30 P.M., Lecture:—Dr. H. M. Richards: School and Home; Infectious Diseases. 5.30., P.M., Lecture:—Dr. Hogarth: School Clinics.

FRIDAY.—10.30 A.M., Dr. Kerr: Demonstration at *London* County Council Education Offices. Visits to Schools.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), West London (2.30 P.M.).

TUESDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (13th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are :—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 4th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 29	30·33	E.		124	73	52	56	62	Fine
" 30	30·02	N.E.	0·47	111	67	55	56	58	Cloudy
" 31	30·00	S.	...	123	75	58	64	67	Fine
June 1	29·90	S.E.	0·05	130	79	63	63	65	Cloudy
" 2	29·95	S.	0·62	121	73	62	62	65	Cloudy
" 3	30·05	E.	...	127	81	60	65	71	Fine
" 4	30·03	E.	0·03	118	79	63	63	67	Fine

During the week marked copies of the following newspapers have been received:—*Leicester Daily Post, Australasian Medical Gazette, Bristol Weekly Mercury, Financial Times, Standard, Dundee Advertiser, Birmingham Post, Daily Telegraph, The Field, Westminster Gazette, Irish Independent, South Eastern Gazette, Daily Chronicle, Liverpool Post, Aberdeen Journal, Birmingham Dispatch, Yorkshire Observer, Western Mercury, Glasgow Weekly Citizen, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. N. H. Alcock, Lond.; Dr. H. G. Adamson, Lond.; Admiralty Medical Department, Director-General of; A. C.; Messrs. Armour and Co., Lond.; Anglo-American Pharmaceutical Co., Croydon

B.—Dr. A. C. Bisharad, Calcutta; Mr. Thomas Bell, Uppingham; Mr. G. P. Butcher, Plymouth; Messrs. Burroughs, Wellcome, and Co., Lond.; Board of Education, Lond., Secretary of; Dr. Victor Bonney, Lond.; *Birmingham Daily Post*, Manager of; Bristol Royal Hospital for Sick Children, Secretary of; British Medical Benevolent Fund, Lond., Hon. Secretary of; Mr. John Storer Beveridge, Milnathort; Dr. H. G. Bateman, Lond.; Dr. James Buchanan, Watford; Dr. A. L. Benedict, Lond.

C.—Dr. Myer Coplans, Leeds; Dr. P. B. Considine, Linthorpe; *The Chemist and Druggist*, Lond., Publisher of; Mr. A. L. Clarke, Buckhurst Hill; Continental Tyre and Rubber Co., Lond.; Messrs. J. and A. Churchill, Lond.; Cheltenham Education Committee, Secretary of; Cheadle Royal, Cheadle, Secretary of; Crewe Corporation, Clerk to the; Dr. H. H. Clarke, Liverpool; Messrs. Cassell and Co., Lond.; Coventry and Warwickshire Hospital, Secretary of; C. F.; *Chester Courant*, Chester, Manager of; Messrs. Corbyn, Stacey, and Co., Lond.; Messrs. A. H. Cox and Co., Brighton; Messrs. Samson Clark and Co., Lond.; Chelsea Guardians, Clerk to the; Mr. F. W. Clarke, Chorlton-cum-Hardy; Dr. Donald E. Core, Derby.

D.—Mr. Percy Dunn, Lond.; Mr. G. T. De Fraine, Aylesbury; Messrs. F. Davidson and Co., Lond.; Dumfries and Galloway Royal Infirmary, Secretary of; Derbyshire Royal Infirmary, Derby, Secretary of; Messrs. Dale, Reynolds, and Co., Lond.; Messrs. Duncan, Flockhart, and Co., Edinburgh; Durham University Medical Graduates' Association, Hon. Secretary of.

E.—Dr. Wm. Ewart, Lond.; East and North Yorkshire Medical Benevolent Society, Hull, Hon. Secretary of; Evening News Co., Portsmouth, Manager of.

F.—Dr. W. Fletcher, Kuala Lumpur; Messrs. Flint and Durbridge, Lond.

G.—Dr. R. A. Glegg, Lincoln; Gt. Eastern Railway Co., Lond., Continental Traffic Manager of; Messrs. Greening and Co., Lond.; Dr. A. S. Gubb, Aix-les-Bains; Mr. H. M. W. Gray, Aberdeen; Sir W. R. Gowers, Lond.; Messrs. Grant, Taylor, and Atkinson, Lond.

H.—Mr. J. A. Horne, Blackburn; Hygienic Co., Lond.; H. L. P. H.; Mr. T. H. Hewitt, Lond.; Honolulu Association, Honolulu, Librarian of; Mr. J. Hartley, Huddersfield; Hastings Corporation, Clerk to the.

I.—Messrs. Isaacs and Co., Lond.

J.—Mr. E. B. Jones, Lond.; Mr. C. Jung, Lorch, Germany; Jenner Institute for Calf Lymph, Lond., Secretary of; Messrs. George W. Jacobs and Co., Philadelphia.

K.—Kent County Asylum, Maidstone, Clerk to the; King Edward VII. Sanatorium, Lond., Hon. Secretary of; Messrs. Kutnow and Co., Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Mr. C. Lawrence, Lond.; Messrs. Lee and Nightingale, Liverpool; Liverpool Stanley Hospital, Hon. Secretary of; Dr. Gerald Leighton, Edinburgh; L.R.C.P.Edin.; Dr. John Love, Glasgow; London Vegetarian Association, Secretary of; Locum, Swansea.

M.—Mr. C. A. Morton, Bristol; Mr. Christopher Martin, Edgbaston; Middlesex Hospital, Lond., Secretary-Superintendent of; Messrs. Moenich and Co., Lond.; Messrs. Merryweather and Sons, Lond.; Mrs Madden, Bromley; Dr. N. F. Mishalany, Dongola; Messrs. Maple and Co., Lond.; Manchester Eye, &c., Hospital, Hon. Secretary of; Maltine Manufacturing Co., Lond.; Dr. J. D. Malcolm, Lond.; Messrs. Mabbett and Edge, Lond.; M. B.; Medical Requisites Co., Manchester; Mrs. E. B. Mitford, New Eltham; Mountain Ash Urban District Council Education Committee, Clerk to the; Manchester Royal Infirmary, Secretary of; Mr. A. Morrison, Torquay.

N.—Mr. H. B. Newham, Goodmayes; Newport Union, Monmouthshire, Clerk to the; Northampton Corporation, Clerk to the; Norwich City Asylum, Clerk to the; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

O.—Odol Chemical Co., Lond.; Mr. C. H. Ostrand, Gotenburg; Oldham County Borough Education Committee, Secretary of.

P.—Mr. F. G. Parsons, Lond.; Mr. D'Arcy Power, Lond.; Mr. Young J. Pentland, Edinburgh; Dr. F. S. Pitt-Taylor, Rock Ferry; Messrs. Partridge and Cooper, Lond.; Prince of Wales General Hospital, Lond., Secretary of; Messrs. Peacock and Hadley, Lond.; Mr. F. S. Palmer, Lond.

Q.—Queen Charlotte's Lying-in Hospital, Lond.

R.—Lieutenant-Colonel R. B. Roe, I.M.S., Nagpur; Messrs. E. J. Reid and Co., Lond.; Reuter's Telegram Co., Lond., Secretary of; Royal Institute of Public Health, Lond., Assistant Secretary of; Royal Sanitary Institute, Lond., Secretary of; Royal British Nurses' Association, Lond., Secretary of; Royal Buckinghamshire Hospital, Aylesbury, Secretary of; Royal College of Surgeons in Ireland, Dublin, Registrar of.

S.—Dr. G. Scheltema, Groningen; *Shrewsbury Chronicle*, Manager of; Mr. A. Steibler, Lond.; Salford Corporation, Clerk to the; Smith's Advertising Agency, Lond.; St. Mary's Hospitals, Manchester, Secretary of; Messrs. Sewell and Crowther, Lond.; Dr. J. Sömme, Mesnalien; Messrs. W. H. Smith and Son, Letchworth; Star Engineering Co., Wolverhampton; South-West London Medical Society, Hon. Secretary of; Scholastic, Clerical, &c., Association, Lond.; Dr. D. Lloyd Smith, Frodsham; Mr. W. Stuart-Low, Lond.

T.—Dr. Ernest F. Travers, Lond.

U.—Union Reklame, Lucerne.

V.—Mr. J. W. Vincent, Leicester.

W.—Dr. Tucker Wise, Dartmouth; Messrs. Willing and Co., Lond.; Messrs. W. Wood and Co., New York; W. W.; Messrs. Wratten and Wainwright, Croydon; Dr. Schürer v. Waldheim, Vienna; Professor G. Sims Woodhead, Cambridge; Mr. A. W. T. Whitworth, Dudley; Wolverhampton General Hospital, Secretary of; Messrs. H. Wilson and Son, Lond.; Mr. J. Wanamaker, Paris.

Y.—Messrs. D. Young and Co., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. M. B. Arnold, Blackburn; Aberdare Urban District Council Education Committee, Clerk to the; Mr. E. Arnold, Lond.; Ancoats Hospital, Manchester, Secretary of; A. G. C.; Aymard Patent Sterilizer Co., Ipswich; Messrs. Allen and Hanburys, Lond.; A. D. L. T.

B.—Mr. C. J. Bond, Leicester; Mrs. M. D. Bahadurji, Bombay; Dr. H. R. Beale, Retford; British Oxygen Co., Lond.; Bury Infirmary, Secretary of; Burntwood Asylum, Lichfield, Clerk to the; Bradford Education Committee, Secretary of; Mr. C. Birchall, Liverpool; Messrs. J. B. Boyd and Co., Manchester; Mr. I. Bowman, Manchester.

C.—Dr. R. J. Clarke, Beragh; C. E. R. B; Cornwall County Asylum, Bodmin, Clerk to the; Dr. Crawford S. Crichton, Redhill; Carmarthenshire Infirmary, Carmarthen, Secretary of; Carnarvonshire, &c., Infirmary, Bangor, Secretary of; Cardiff Corporation, Treasurer to the.

D.—D. G., Ferry Hill; Dispenser, Edgbaston.

E.—The A. R. Elliott Advertising Co., New York; E. F. P.; E. L.; E. L. D.; E. P.; E. W. H. E.; E. N.

F.—Miss G. H. Frere, Norwich; Mr. F. T. Fagge, Llanfairfechan; Dr. A. M. Fraser, Portsmouth; F. W.; F. M.; Messrs. Fairchild Bros. and Foster, Lond.; F. J. M.

G.—Mr. E. Gooch, Lond.; G. G. C.; G. M. S; Galen Manufacturing Co., Lond., Secretary of; Gloucestershire Education Committee, Gloucester, Treasurer to the.

H.—Dr. J. J. Hanley, Barnsley; Hungerford, &c., Union, Clerk to the; Captain H. C. R. Hime, R.A.M.C., Aldershot; Mr. J. T. Hughes, Altrincham; Messrs. Hirschfeld Bros., Lond.; Messrs. Hooper and Co., Lond.; Mr. F. E. Heubeck, Cwmaman.

I.—Interstate Medical Journal Co., St. Louis, Manager of; Messrs. Ingram and Royle, Lond.

J.—J. M. T.; J. F. W.; J. I.; J. B.; J. H.

K.—Dr. C. Kirk, Flotta; King Edward VII. Sanatorium, Midhurst, Secretary of.

L.—Mr. R. B. Lloyd, Chingford; Messrs. Leslies, Lond.; L. F.; Mr. T. Llewellyn, Ogmore Vale; Lindsey County Council Education Committee, Lincoln, Secretary of; Leeds (Box 329); L. W. R.

M.—Mr. J. E. May, Lond.; Messrs. W. Martin and Co., Lond.; Dr. W. O. MacFetridge, Clonakilty; Mr. G. Mills, Lond.; Messrs. Macandrew and Jenkins, Inverness; Monmouthshire Education Committee, Newport, Clerk to the; Manchester Corporation, Treasurer to the; Dr. S. G. Moore, Huddersfield; Miol Manufacturing Co., Lond.; Mr. H. Messenger, Saltburn-by-the-Sea; Messrs. F. Mundy, Gilbert, and Co., Birmingham; M., Twickenham; M. F., Handsworth; Dr. D. McIntosh, Cwm; Dr. R. J. Mills, Norwich.

N.—Nottinghamshire Education Committee, Nottingham, Clerk to the.

P.—Mr. F. H. Preston, Lond.; Dr. J. A. W. Pereira, Exeter; Mr. W. Paulson, Mount Sorrel.

R.—Mr. W. Ramsay, Melbourne; Royal Waterloo Hospital for Women and Children, Lond., Accountant to the; R. E. L; Royal Mineral Water Hospital, Bath, Registrar of; R. M. T.; Risiccol, Lond., Managing Director of.

S.—Mr. D. Sen, Midnapore; Mr. A. J. L. Speechly, Wondalli; Mr. R. F. Stephens, St. Austell; Mrs. A. Schleller, Lond.; Mr. G. C. Stamper, Pembroke; Messrs. Spiers and Pond, Lond.; Messrs. Spottiswoode, Dixon, and Hunting, Lond.; Sheffield Education Committee, Treasurer to the; Mr. M. Sanderson, Tilbury.

T.—Mrs. Thwaites, Lond.; Mr. J. Thin, Edinburgh.

W.—Dr. G. M. Wilson, Capelulo; Mr. R. S. Wright, Uxbridge; Mr. E. A. F. Wilkes, Birchinlee; Mr. W. F. A. Walker, Dinas Mawddwy; W. H.; W. A. G.; W. L. M.; Warneford Hospital, Leamington, Secretary of; West Kent General Hospital, Maidstone, Secretary of; Mr. S. White, Diss; Mr. Williams, Lond.

Y.—Dr. W. Yorke, Blantyre, Central Africa; York City Asylum, Medical Superintendent of.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.	
One Year	£1 12 6
Six Months	0 16 3
Three Months	0 8 2

TO THE COLONIES AND ABROAD.	
One Year	£1 14 8
Six Months	0 17 4
Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0 4 6
	Every additional Line	0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d. Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 31, Rue Bapst, Asnières, Paris.

The Milroy Lectures

ON

MELITENSIS SEPTICÆMIA

(MALTA OR MEDITERRANEAN FEVER).

Delivered before the Royal College of Physicians of London on March 5th, 10th, and 12th, 1908,

BY J. W. H. EYRE, M.D., M.S. DURH.,
D.P.H. CANTAB.,

BACTERIOLOGIST TO GUY'S HOSPITAL AND LECTURER ON BACTERIOLOGY AT GUY'S HOSPITAL MEDICAL SCHOOL; MEMBER OF THE ADVISORY BOARD OF THE MEDITERRANEAN FEVER COMMISSION.

LECTURE I.

Delivered on March 5th.

NOMENCLATURE.

MR. PRESIDENT AND GENTLEMEN,—At the very outset I feel that some apology is needed for the title which I have given to these lectures, for in the third edition of the Nomenclature of Diseases drawn up by a Committee appointed by the Royal College of Physicians of London, and published in 1897, there first appears the entry "Mediterranean Fever, synonym Malta Fever," an entry which it is mentioned in the preface has been included "in consequence more especially of representations made by officers of the Medical Department of the Army." This entry refers to the infective disease with which I am immediately concerned, and which had hitherto hidden its identity under a variety of titles, all more or less inappropriate, conferred upon it by various observers; for it is one of the features of the history of the disease, that everyone who has seriously studied it has been extremely dissatisfied with all existing titles and has promptly put forward one which he himself considers as more appropriate, and which he foolishly imagines will soon supplant all previous names. And to this vanity I have also fallen a victim. From the prevailing type of pyrexia some have designated it simple remittent or simple continued fever; from particular clinical features febris sudoralis, gastric, or bilious remittent fever; from its resemblance to enteric fever other observers have called it intermittent typhoid, recurrent typhoid, typho-malarial, or fæco-malarial fever, whilst very protracted cases were often termed Mediterranean phthisis. Other names, identifying the disease with certain localities in which it was prevalent, were Cretan, Cyprus, Gibraltar or "Rock," Malta, Mediterranean, and Neapolitan fevers, while Tommy Atkins, the principal sufferer from the ravages of the disease, has long ago labelled it "slow continued fever." In the fourth edition (1906) of the Nomenclature of Diseases the name and its synonym are found transposed and the name of the island upon which the discovery of the specific organism of the disease was made becomes the principal part of its official designation, to the no small annoyance of the inhabitants who, and with some justice, consider that an undeserved stigma is thereby attached to their native land. Veale in 1879 recognised the erroneous impression that was created by referring to it as Malta fever and suggested that it should be called febris complicata; then, in 1897 Hughes, who had the interests of Malta closely at heart, advocated the use of the name undulant fever as indicating the general characters of the temperature in cases of the disease, but this term has never met with general acceptance. Italian observers have recently applied the title "septicæmia of Bruce" and last year Tramousti suggested the general adoption of the name. This is a step in the right direction, but in my humble opinion, and I make the suggestion with much trepidation, "micrococcus Melitensis septicæmia," or shortly "Melitensis septicæmia," is a more suitable appellation, in that it indicates both the nature of the disease and the specific infective agent. Moreover, it follows the present-day tendency to amplify the information contained in the term septicæmia—that naked term which in the old days of empirical medicine included a multitude of pathological conditions and only justified its existence by serving as a cloak for sins of inadequate and inexact diagnosis—in every case by the addition of the name of the specific microbe responsible for the infection.

The careful study of this disease appeals to us not only as medical men but as members of a great empire, while its importance cannot be gainsaid. It has during the past few years been the custom to generalise and to say that this one disease alone is responsible for a total loss to the combined army and navy on the Mediterranean station of at least 75,000 days' sickness per annum. I do not wish to labour this point—I would merely draw your attention to the accompanying table, which shows the number of cases and the mortality occurring in the Maltese civil population, in the land forces garrisoning the island, and in that portion of our navy which makes Malta its headquarters, during the years 1901–1907.

TABLE I.—*Cases of Melitensis Septicæmia and Mortality in Civil Population, and in the Navy and the Army during the Period 1901–1907 in Malta.*

—	Civil.		Navy.		Army.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1901	642	54	252	3	253	9
1902	624	45	354	2	155	6
1903	539	48	339	6	404	9
1904	575	59	333	8	320	12
1905	663	83	270	7	643	16
1906	822	117	145	4	163	2
1907	714	78	12	0	9	1
—	4527	489	1705	30	1947	55

In bringing this instance before you I may perhaps be accused of fostering the impression that Malta is the only habitat of the disease and thereby adducing evidence justifying the nomenclature I endeavour to displace. But I would point out that my own experience of the acute phases of the disease and much of my research work on the etiology of micrococcus Melitensis septicæmia is derived from observations carried out in that island, and that I naturally prefer to draw upon my own experience and upon that of my colleagues upon the Mediterranean Fever Commission, the bulk of which I am personally acquainted with, for any illustrations that may be necessary.

HISTORICAL SUMMARY.

The disease itself may be defined as follows:—

Micrococcus Melitensis septicæmia.—A specific septicæmia, resulting, as its name implies, from infection by the micrococcus Melitensis, widely distributed throughout the subtropics. Endemic in certain localities; running an acute, subacute or chronic course of indefinite duration, often lasting for months or even years, and characterised by lack of constant symptoms other than slight or severe pyrexia—continuous, intermittent, or remittent—and a marked tendency to repeated relapses, during which the symptoms originally present may recur without alteration or diminution of severity; accompanied or followed by such toxic symptoms as neuritis or such metastases as synovitis and orchitis.

Micrococcus Melitensis septicæmia under a variety of names has apparently been known and studied from very early times, for Hippocrates is obviously describing it when he tersely says: "3. In the course of the summer and autumn many fevers of the continual type, but not violent; ...... they were affected with fevers, rigors and deficient sweats, with varied and irregular paroxysms, in general not intermitting ...... the earliest crisis which occurred was about the twentieth day, and in many about the eightieth. But there were cases in which it did not leave them thus at all, but in an irregular manner, and without any crisis; in most of these the fever after a brief interval relapsed again, and from these relapses they came to a crisis in the same periods; but in many they were prolonged so that the disease was not gone at the approach of the winter. Of all those which are described under this constitution the phthisical diseases alone were of a fatal character, for in all the others the patients bore up well and did not die of those fevers." Galen in his Commentary explains the use of the term continual as applied to these fevers by saying that such fevers as have an exacerbation ending in complete apyrexia are called intermittents, whereas such as do not end in a complete remission of the fever are called continual. Hippocrates, moreover (Epidem., lib. iii., Section III., Constitution 2),

No. 4424.

describes a case of 120-day fever, terminating fatally, in these words:—

CASE I.—In Thasus, the Parian who lodged above the Temple of Diana, was seized with an acute fever, at first of a continual and ardent type; thirsty, inclined to be comatose at first, and afterwards troubled with insomnolency; bowels disordered at the beginning, urine thin. On the sixth day passed oily urine; was delirious. On the seventh, all the symptoms were exacerbated; had no sleep, but the urine of the same characters and the understanding disordered; alvine dejections bilious and fatty. On the eighth, a slight epistaxis; small vomiting of verdigris-green matters; slept a little. On the ninth, in the same state. On the tenth, all the symptoms gave way. On the eleventh, he sweated, but not over the whole body; he became cold, but immediately recovered his heat again. On the fourteenth, acute fever; discharges bilious thin, and copious; substances floating in the urine; he became incoherent. On the seventeenth, in a painful state, for he had no sleep, and the fever was more intense. On the twentieth, sweated all over; apyrexia, dejections bilious; aversion to food, comatose. On the twenty-fourth had a relapse. On the thirty fourth, apyrexia; bowels not confined, and he again recovered his heat. Fortieth, apyrexia, bowels confined for no long time, aversion to food; had again slight symptoms of fever and throughout in an irregular form; apyrexia at times and at others not; for if the fever intermitted and was alleviated for a little it immediately relapsed again; he used much and improper food; sleep bad; about the time of the relapse he was delirious; passed thick urine at that time, but troubled and of bad characters; bowels at first confined, and again loose; slight fevers of a continual type; discharges copious and thin. On the hundred and twentieth day he died. In this patient the bowels were constantly from the first either loose, with bilious, liquid, and copious dejections, or constipated with hot and undigested fæces; the urine throughout bad; for the most part coma or insomnolence with pain; continued aversion to food. Ardent fever. *Explanation of the characters.* It is probable that the weakness produced by the fever, the phrenitis, and affection of the hypochondrium caused death on the hundred and twentieth day.

Hippocrates records another case of similar duration which followed its usual course and terminated in recovery. These cases, read in the light of our twentieth century knowledge, must undoubtedly have been cases of micrococcus Melitensis septicæmia; indeed, in the Sydenham Society's translation of Hippocrates's works published in 1849, Adams remarks of the former that "this is an example of one of those protracted fevers which, as I have been informed by an intelligent physician who practised for several years in the Ionian Islands, are so common in the climate of Greece." In another place, referring to certain of the fevers described by his author, Adams states that a careful study of modern authorities convinced him that these fevers "are exactly the same as those which are now described as still prevailing in the land of Greece and correspond very well with those described by Cleghorn (as occurring in Minorca)." Cleghorn himself (1750), Veale (1879), and Hughes (1897) are all in turn struck by the applicability of these descriptions to the disease as it manifested itself in their days, and so set the example of quoting Hippocrates which I have now followed.

From the first to the nineteenth centuries descriptive accounts of any subtropical fever which can be identified with the one under discussion are extremely rare. Some of those described by Bates in the first decade of the eighteenth century probably belong to this category as does the *febbre subcontinua* of Torti a few years later.

Hughes, who, assisted by Zammit, made a careful research through the Bibliotheca of Valetta, a library which is particularly rich in rare, and in many cases unique, manuscripts, records the fact that Bonamici (1626–1680) described a fungus indigenous to Malta—Fungus Melitensis (Cynomorium coccineum Balanophoraceæ, order Rhizanthal), which was held to be a sovereign remedy for the "fever" and a valuable monopoly of the Grand Masters—a fact which was considered of sufficient importance and interest to be reiterated in 1805 by Louis de Boisgelin; he also states that Demarco (1722–1787) refers to the occurrence of continued and remittent fevers in Malta. Howard in "Lazaretos of Europe (1786)," too, describes a low form of fever prevalent in the wards of the Great Hospital of the Knights of St. John.

Cleghorn, surgeon to the 22nd Regiment of Foot, writing of the "epidemical diseases in Minorca during the period 1744–1749" states: "Yet I have seen every year a few [cases of fever] of the continual kind; ...... some of them have continued without any considerable Interval for six or seven Weeks. Hippocrates has accurately described such." The administration of "bark" produced no effect in these cases and he further says: "...... nor could I ever fall upon any certain Method of preventing one Relapse after another until the cold Weather which commonly sets about *Christmas*, had braced the Solids and given them sufficient Strength to throw off the excrementations Humours by the proper Outlets." Incidentally Cleghorn remarks that the island abounds with goats, which "are fattened in Autumn and are slaughtered from September to January chiefly for the use of the common people." Fauverage (1803) and Robert, military surgeons to the French troops during their occupation of Malta (1798–1800), also mention "the bilious maladies, the intermittent fevers, &c., affect most especially the inhabitants of Malta."

The next author of importance to treat of the disease is Burnett (1814), in a volume which bore for its main title the words "Mediterranean Fever," followed on the next page by a lengthy descriptive title commencing "A Practical Account of the Fever commonly called the Bilious Remittent as it appeared in the Ships and Hospitals of the Mediterranean Fleet ...... and of the Gibraltar and Carthagena Fevers." This author describes the onset of the disease clearly and fully, mentions the pains in the joints, the throbbing of the carotids, the swelling of the parotids, and the petechiæ which occur during the course of the disease, and in a footnote makes the significant statement that the "patients were constantly relapsing." Burnett describes his numerous cases so clearly that the present-day student can readily pick out those of Melitensis septicæmia and distinguish them from those of typhus, typhoid, and yellow fever, yet in the preface this author states his opinion that the fevers he treats of are all identical and that copious venesection forms the only treatment.

Other military and naval surgeons—Irvine, Hennen, Burns, Baxter, Clark, and Davy—in turn took up the study of the fevers met with in the Mediterranean and a perusal of their writings leaves no shadow of doubt that Melitensis septicæmia was prevalent in both services, although there is equally no doubt that all the authors to whom reference has so far been made frequently confused it with enteric fever on the one hand and malaria on the other.

Parliamentary returns of the diseases of the navy and army during the first half of the nineteenth century bear internal evidence in those sections dealing with the Mediterranean Station of the prevalence of micrococcus Melitensis septicæmia under such headings as "remittent fever," "billious remittent," "common continued," &c., but it is not until 1863 that we find in the belated report of Marston an accurate account of the clinical symptoms which enabled him to differentiate micrococcus Melitensis septicæmia, or, as he called it, "Mediterranean remittent" or "gastric remittent," from the other fevers of the Mediterranean, including simple continued or ephemeral fever—a three- to five-day fever which he refers to as *febricula* or Maltese fever. He defines the Mediterranean remittent as "a fever characterised by the following symptoms and course: a preliminary stage of subacute dyspepsia, anorexia, nausea, headache, feeling of weakness, lassitude, and inaptitude for exertion, mental or physical, chills, muscular pains; lastly, a fever having a very long course—three to five or ten weeks—marked by irregular exacerbations and remissions, great derangement of the assimilative organs, tenderness in the epigastric region, splenic enlargement, slight jaundice without any exanthem. ...... The patient is prone to relapses and the disorder is followed by a protracted convalescence and a chloro-anæmic aspect; very frequently also by rheumatism of some form or other. The skin ...... at another time (night) is covered with perspiration, sour smelling and acid to litmus. ...... From first to last there is great depression of spirits. ...... The occurrence of wintry or cold weather acts most beneficially. ...... The tendency of the disease is decidedly to recovery—a fatal issue being very rare indeed." Further on Marston states that the rheumatism of the convalescent stage takes one or other of the following forms: (1) sciatica; (2) rheumatic orchitis (only one case suppurated); (3) general rheumatism; or (4) intercostal neuralgia.

Veale, the assistant professor of military medicine at Netley, contributed in 1879 a very complete account of the clinical symptoms presented by patients suffering from the disease when invalided home from Cyprus, Malta, and Gibraltar, together with observations upon the morbid anatomy of the affection. He lays particular stress upon the frequency with which rheumatic sequelæ occurred in invalids from Malta and Gibraltar and from this fact contends that the bulk of the fevers contracted in Cyprus were not identical with the fever so common in Malta and Gibraltar.

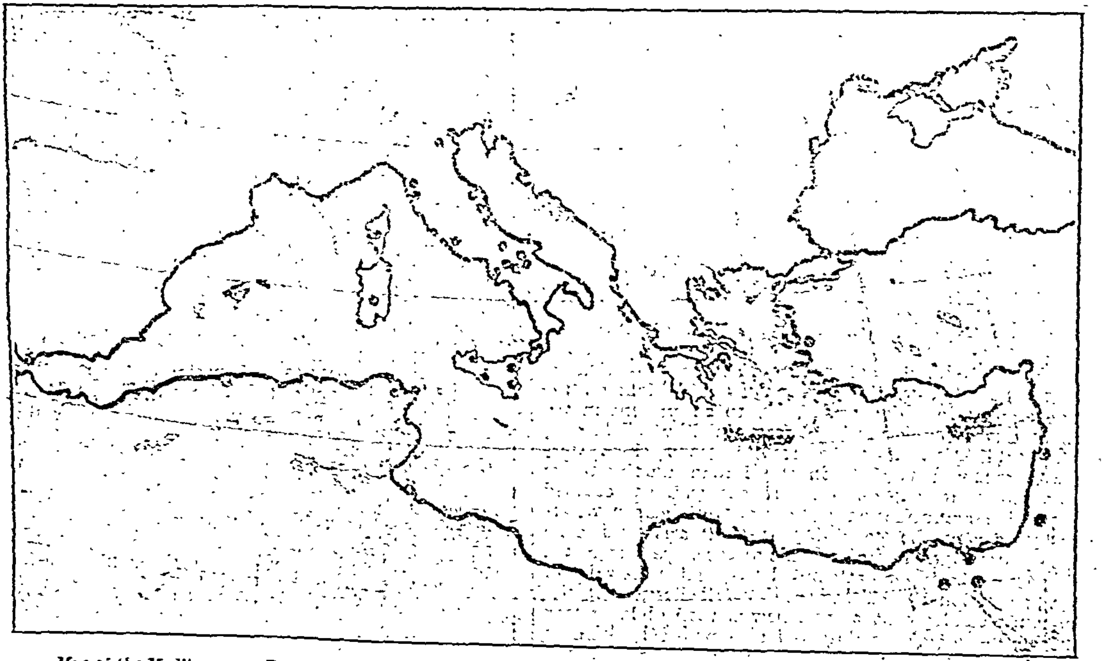
In the same year Fazeo described the disease as it occurred in Naples to the Association of Medical Men and Naturalists, and in pointing out its specific characters suggested the probability of the *causa causans* of the disease being a micrococcus or some allied microbe.

In 1886 Bruce, as a surgeon-captain in the Army Medical Staff and while stationed at Malta, first observed the specific micro-organism which is the causative factor in the production of micrococcus Melitensis septicæmia; and although in those days bacteriology was a comparatively juvenile science, he applied its principles to his investigations and early noted the presence of minute cocci in fresh preparations of the spleen pulp. In the following year he isolated and described the micrococcus and by experiment upon the monkey proved its etiological importance.

In those days the Army Medical Department did not see the wisdom of providing facilities for its officers for research work, and Bruce accordingly associated himself with Scicluna, the Government analyst, in whose laboratory the cultivation and inoculation experiments were carried out. The organism was isolated from the spleen pulp of several fatal cases and was found to fulfil the postulates of Koch. Bruce described his experiments in a preliminary note in the *Practitioner* for September, 1887, and in his next paper, contributed to the *Annales de l'Institut Pasteur*, he described his experiments in full, and by a chain of incontrovertible evidence established the specificity of the organisms he had isolated.

Bruce did not write at any great length upon the purely clinical aspects of the disease, but some ten years later Hughes (when also stationed at Malta) stimulated by the example and advice of Bruce, devoted himself to this aspect of the subject, and having amplified and confirmed the experiments of his teacher produced a monograph on the subject which from the clinical side ranks as the classic. Immediately previous to the publication of Hughes's work Wright, then professor of pathology in the Army Medical School at Netley, took up with his pupils the investigation of the disease and soon showed experimentally that specific agglutinins were present at some period or other during the course of the experiments in the blood of infected and immunised animals which were comparable to those already described by Durham, Gruber, and Widal in connexion with cholera and enteric fever. It was further shown that similar agglutinins could be demonstrated in the serum of patients who had acquired the disease naturally, whilst as they were absent from the serum of patients suffering from other diseases as well as from the serum of the normal individual their detection formed a reliable means of diagnosis. These observations upon the specific agglutinins of micrococcus Melitensis septicæmia—affording as they did an accurate basis for the differential diagnosis of obscure fevers—were eagerly applied by many observers. But it was probably nearly the end of 1900 before the agglutination test in one or other of its forms was being generally applied by both naval and military surgeons. Hence in the compilation of statistics—that is, where accuracy of diagnosis is a very essential detail—it is advisable to use only such as are available from 1901 onwards.

FIG. 1.



Map of the Mediterranean Basin indicating by black areas and spots those localities where septicæmia Melitensis is endemic.

GEOGRAPHICAL DISTRIBUTION.

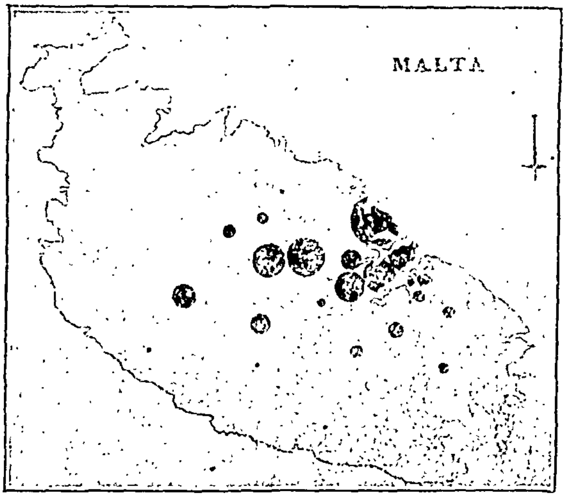
Unfortunately after Bruce had left the Mediterranean his exact researches provoked very little interest amongst the bulk of those whose duties brought them into close clinical touch with the disease. But, as I have already mentioned, the observations of Wright, providing as they did a ready means of diagnosis, were eagerly applied, and for many years the only direct advances made in the study of Melitensis septicæmia were those bearing upon its geographical distribution, for from all parts of the tropical and subtropical zones sporadic cases and small epidemics were recorded, showing most conclusively that although the Mediterranean was a perfect hot-bed of the disease many others of our possessions beyond the seas shared the unenviable distinction of harbouring this fever. Hughes, when discussing the distribution of the fever, remarked upon the fact that north of latitude 46° N., which corresponds roughly with isotherm 55° F., this fever does not exist except as imported cases. South of this line the fever is met with as an endemic disease with an increasing annual prevalence as the mean annual temperature rises above 60° F.

Shaw, in a paper communicated to the Royal Institute of Public Health at its London congress in 1905, maintained that the fever was infrequent and rare elsewhere than in Malta, and to put it plainly only occurred in such localities as were in direct sea communication with Malta.

So far as concerns the Mediterranean area, however, the evidence of the almost universal distribution of the disease is fairly complete. At Gibraltar the disease was well known until its disappearance from the Rock a few years ago. In Algiers the researches of Brault, Soulié, and Sergent, and in Tunis of Hayat, Nicholle, Schoull, and Cathoire have placed the existence of the fever beyond doubt. Manoussos, Brussis, and Thomopoulos record cases from Greece; Kaller from Smyrna; Ross from Port Said; Carbone, Gabbi, Trambusti, and others from Sicily, and practically the whole of Southern Italy, and so on, and the cases recorded are supported not merely by clinical evidence but also by the agglutination reaction and by the isolation of the specific micrococcus, either from the peripheral blood during the progress of the disease or by its recovery from various organs after death, and in some instances from both these situations. Zardi, Tiberti, and Oatani junior, on similar evidence prove its existence in Tuscany; Gabbi also notes its presence in Leghorn and Ancona, and Brunner in Trieste.

In Malta itself it was customary at one time to deny that the disease existed elsewhere than in the immediate neighbourhood of the Grand Harbour, and that it was rare to meet it except in Valetta. This spot-map of Malta that I have prepared shows not only that it is found throughout the whole of the inhabited portion of the island for every village is represented by a "spot" but that some of the inland villages present as many cases as Valetta itself or even more, for the "spots" are graduated in size to indicate the average numbers of cases per annum; thus Valetta averages 48 cases every year and Mellieha two.

FIG. 2.



Spot map of Malta showing incidence of septicæmia Melitensis.

Turning to India the existence of Melitensis septicæmia was first indicated by the observations of Wright on the specific agglutinin which was found to be present in th serum of certain cases invalided from Subathu. Following on the publication of these results many cases were reported from various spots in the Indian Empire where the diagnosis rested on clinical observations coupled with positive agglutination reactions. But many writers refused to accept the possibility of Melitensis septicæmia existing, particularly as an endemic disease, apart from the Mediterranean basin, and attempted to question the value of the serum reaction by pointing out the fallacies that at first attended the employment of this new method of laboratory investigation—fallacies mainly due to a non-recognition of the precautions which must necessarily be observed in the application of any test, and for a while it was the fashion to deny that Melitensis septicæmia had any place among the indigenous diseases of India. Evidence steadily accumulated, however. Finally, in 1905 Lamb, of the Indian Medical Service, and Kesava Pai investigated in a most comprehensive manner an epidemic of the disease at Ferozepore, during which the specific micrococcus was recovered from various patients and the accuracy of the diagnosis conclusively established, while Forster tracked down the source of infection. Recently Brayne has investigated an epidemic of Melitensis septicæmia occurring in the 36th Sikh Regiment in Rawalpindi, when the clinical diagnosis was supported by the serum reactions, and although no attempts were made to isolate the specific coccus, incontrovertible evidence was adduced by Fox to show that the regiment was being supplied with infected and infective food; and still more recently Mills of the 22nd Punjabis writes me from Jhelum saying that there are cases there in one of which micrococcus Melitensis has been recovered in pure culture from the peripheral blood.

Still further East, Bishop, who himself suffered from the disease, states that it is endemic in Hong-Kong and Shanghai. My late friend and colleague Washbourn on his return from South Africa early in 1901, expressed to me his conviction that Melitensis septicæmia existed in South Africa—in Kimberley (diagnosed as camp fever) and elsewhere—his opinion being based upon the results of agglutination reactions carried out early in 1900 where the serum had been tested against a vigorous and virulent strain of micrococcus Melitensis I had provided him with; but as none of the cases had proved fatal, the urgency of his routine work had prevented any attempt to isolate the coccus.[1] My knowledge of the disease in South Africa and its distribution there is derived from (in addition to official records) the papers published by Strachan and from private letters I have received from him, from Dr. W. W. Stoney, and from Major J. G. McNaught, R.A.M.C., to all of whom I am deeply indebted for many details. From these correspondents I gather that Melitensis septicæmia is widely diffused throughout the Transvaal, British Bechuanaland, Orange River Colony, Basutoland, and Cape Colony, as will be seen from the accompanying spot map of South Africa prepared from information supplied by the gentlemen I have just named.

Two sporadic cases have also been recorded as occurring in England in addition to several authenticated cases of laboratory infection. Of these the one mentioned by Birt and Lamb in THE LANCET of Sept. 9th, 1899, if in verity a case of Melitensis septicæmia, of which fact there does not appear to be any overwhelming evidence, might well have been a laboratory case. The second, recorded by Mangin in the same year in a young gunner who had never been out of England, would from the general course of the disease and the naked-eye appearances at the necropsy suggest chronic streptococcic septicæmia quite as much as Melitensis septicæmia.

Many cases have been recorded of individuals who have contracted the disease within some endemic area and there suffered from an indefinite malaise, so slight as to cause but little inconvenience, of a day or two's duration, and on their return to England weeks or even months later developed a severe attack of the septicæmia. These cases are frequently quoted as evidence of the lengthy incubation period of the disease.

The various localities in which Melitensis septicæmia has been conclusively proved to exist as an endemic disease may then be tabulated as follows:—

Europe.

Austria (Trieste).
Grecian Archipelago.—Athens, Nauplia, Platæa, Cephalonia (Argostolia), Corfu, Crete.
Italy.—Ancona, Benevento, Campobasso, Casserta, Cittanova, Fermo, Leghorn, Naples, Padua, Pisa, Rome, Terano.
Mediterranean Sea.—Balearic Isles (Mahon), Candia, Corsica (Ajaccio), Cyprus, Gozo, Malta, Sardinia, Sicily (Catania, Messina, Palermo, Syracuse).
Spain.—Gibraltar.
Turkey.—Constantinople, Salonika.

Asia.

Arabia.—Aden.
Asia Minor.—Beyrout, Jerusalem, Smyrna.
Assam.—Tezpur.
China.—Hong-Kong, Shanghai.
India.—Agra, Allahabad, Bombay, Calcutta, Delhi, Ferozepore, Jalandhar, Jhelum, Lucknow, Meenmer, Multan, Nowshera, Rawalpindi, Secunderabad, Simla, Subathu, Swat Valley.

Africa.

Algeria.—Algiers.
Tunis.—Cape Bon, Goulletta, Tunis.
Egypt.—Alexandria, Cairo, Massowah, Port Said, Suakin.

South Africa.

Basutoland—Leribe, Maseru, Mohalieshoek.
Cape Colony.—Barkly West, Beaufort West, Clanwilliam, Griquatown, Hanover, Hopetown, Kenhardt, Kimberley, Murraysburg, Pearston, Petrusville, Prieska, Richmond, Somerset East, Upington.
Native Provinces.—Hay, Maclear, Mount Fletcher, Ugie.
Orange River Colony.—Bethulie, Boshof, Fauresmith, Ficksburg, Koffyfontein, Luckhoff, Philipolis, Reddersburg, Senekal, Springfontein, Vrede, Wepener.
Transvaal.—Barberton, Boksburg, Dordrecht, Johannesburg.

America.

North America.—Mississippi Valley.
South America.—Brazil, Venezuela, Montevideo.
West Indies.—Cuba, Porto Rico.
Pacific Ocean.—Fiji Islands, Philippine Islands (Manila).
Atlantic Ocean.—Canary Islands.

[The lecturer proceeded to consider the etiological factors of the disease, reviewing the old opinions which held it due to "the influence of marsh miasma," or its first-cousin

---

[1] See also Brit. Med. Jour., Sept. 14th, 1901, p. 701 (Pathological Notes from South Africa, pp. 699-701).

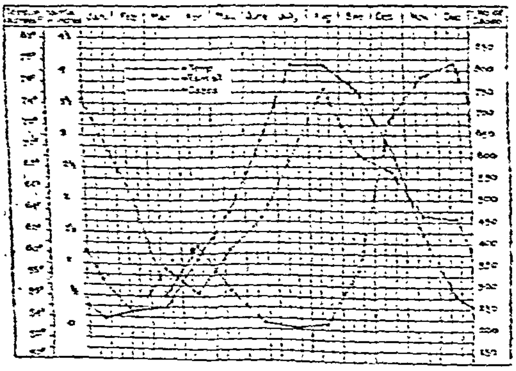
"the constant breathing of a fæcally polluted atmosphere," as stated by Burnett in 1814, and the later theories which would have it a dirt disease, and especially due to imperfect drainage. He stated that in 1905 Davies, after surveying the incidence of the disease amongst the Malta garrison, considered that the data available were insufficient to justify any absolute and definite conclusions upon the subject." He continued:]

I now propose to deal very briefly and without comment at this stage with certain etiological data—observed facts—bearing upon the incidence of the disease in relation to such factors as age, status, seasonal prevalence, atmospheric temperature, &c. For reasons already given all my illustrations in this connexion are drawn from one particular endemic area—viz., the island of Malta—and I may remark that I have drawn largely upon the epidemiological portions of the reports of the Mediterranean Fever Commission, supplemented by the official publications of the public health department of Malta, for the material for this section.

SEASONAL PREVALENCE.

The climatic conditions prevailing in Malta enable one to make the general statement that the year is divisible into a hot dry season from April to September, and a cold wet season from October to March. Again, speaking generally, the average incidence rate is lowest during the wet period from November to January, rises slowly and gradually during February to April, more rapidly during May and June and reaches its maximum during the very hot dry months of July, August, and September, months which, it may also be remarked, correspond to the greatest prevalence of insect life and also of dust. So that in general terms a very close correspondence is to be observed between the curves recording atmospheric temperature and incidence rate, and a direct opposition between those representing incidence rate and rainfall, which is well seen in the chart drawn up by Johnstone in 1904 from civil statistics (Fig. 3). At the same time it must be noted that cases occur throughout the entire year, and in examining figures for individual months in preparing yearly averages, &c., it is seen that the incidence is markedly irregular, and that often a large number of cases will appear in cold rainy months—e g., December or January, as for example in the military statistics for the period 1901–1906.

FIG. 3.



Relation of incidence rate to temperature and rainfall (Johnstone).

GENERAL SANITARY CONDITIONS.

The towns and villages in Malta can be grouped under three headings so far as general sanitation is concerned—viz., 1. An urban drained area comprising Valetta, Floriana, and the three fortified cities Cospicua, Vittoriosa, and Senglea, towns which are drained, paved, and scavenged. 2. A suburban partially drained area comprising Sliema (sewered 1902), St. Julian (1903), Hamrun, Misida and Pieta (1903). Birchircara, Curmi, Zabbar, Tarxien and Paola. 3. A rural area comprising Notabile and Rabato, Dingli, Zebbug, Siggeui, Lia, Attard and Balzan, Naxaro, Musta, Gargur, Mellieha, Lucca, Zurrico, Safi, Crendi, Micabiba, Chircop, Zeitun, Axiak, and Gudia. The combined population of each of these three areas is practically the same, but the incidence-rate per 1000 for 1904–1906 shows that the disease is most prevalent in the suburban area and least prevalent in the urban area, while in the rural area the incidence practically corresponds to the average for the whole island, which is 3·85.

Urban area, 61,242	2·99
Suburban area, 59,677	5·03
Rural area	3·61

According to Johnstone, disregarding the urban area, the greater the aggregation of inhabitants living in one locality the greater is the proportional number of cases that occur amongst them; also to a certain though less marked extent severity of incidence depends on density of population.

Length of residence in endemic area.—Malta.—The duration of residence—the length of service—in Malta of those adults who are not natives of the island is closely connected with the incidence rate, the newcomers during their first year in Malta yielding by far the largest number of cases. After the first year of residence the incidence gradually decreases until the fifth year, after which it again rises, to suffer a second fall when the period of residence has been prolonged beyond ten years.

TABLE II.—*Length of Service in Relation to Melitensis Septicæmia (Army in Malta).*

Length of service.	Aggregate strength. 1902–1906.	Notified cases.		Deaths.
		Total.	Ratio per 1000.	
Under 1 year ...	17 820	839	47·0	14
1 to 2 years ...	11,356	454	39·9	12
2 " 3 "	4,016	140	34·8	8
3 " 4 "	1,197	41	34·2	4
4 " 5 "	712	14	19·6	—
5 " 10 "	657	32	48·7	2
10 years and over	187	2	10·7	1

Age and sex.—A consideration of the statistics of the civil population for the year 1905 (when the figures in this connexion were first available) and 1906 shows that the disease is most prevalent between the ages of 11 and 30 years, though no age is immune, for I have seen a case of micrococcus Melitensis septicæmia in a woman who I was told was turned 86 years—and looked it—and I have seen another in an infant but a few days old. From civilian statistics sex would appear to be an indifferent factor. The above total of 1462 cases is made up of 750 males and 712 females, while the total population at the last census (1901) comprised 91,994 males and 92,748 females. On the other hand, military statistics would indicate that women are more than twice as susceptible as the rank and file, being 88·2 per 1000 as compared with 41·1, the mortality rates corresponding directly with the incidence rates, although there is sufficient general agreement between civil and military statistics with regard to the age-incidence of the disease.

TABLE III.—*Incidence of Melitensis Septicæmia in Relation to Age and Sex (Civil Population).*

Age—years.	Males.		Females.	
	Population.	Cases.	Population.	Cases.
0–10	19,762	62	19,105	64
11–20	16,334	173	16,336	153
21–30	13,324	221	13,227	189
31–40	10,257	117	10,412	107
41–50	9,042	76	9,224	85
51–60	6 818	59	6,842	62
61–70	3 991	33	4,183	18
71–80	2,082	7	2,190	3
81–90	723	2	729	1
Totals	82,303	750	82,254	712

TABLE IV.—*Age in Relation to Melitensis Septicæmia (Army in Malta).*

Age—years.	Aggregate strength 1902–1905.	Notified cases.		Deaths.
		Total.	Ratio per 1000.	
Under 20	4,827	190	39·3	4
20-25	14,774	811	54·9	13
25-30	7,423	233	31·3	7
30-35	4,205	125	29·7	9
35-40	3,871	120	31·0	5
40 and over ...	845	43	50·9	3

Social status.—Exact statistics bearing upon this point in relation to the civil population of Malta are not obtainable but it is a widely spread impression that the upper leisured classes are much more prone to contract the disease than the lower and labouring classes. Maltese physicians support this impression which receives some confirmation from the fact that the combined suburbs of Sliema and St. Julian, the most fashionable and wealthiest locality of the island, have by far the heaviest average case incidence—viz., 74 per 10,000 inhabitants—but personally I am not altogether convinced of the truth of the statement, for my own experience leads me to believe that the Maltese peasant when suffering from the disease, so long as he is not absolutely incapacitated, will prefer to work during the early hours of the day before his temperature rises to an inconvenient height and rest during the post meridian hours rather than call in a medical man. Consequently severe cases alone are seen by the physician and notified, a fact which goes far to explain the high case mortality of Melitensis septicæmia noted in the civil population of Malta as compared with that observed in the navy and army. In one small holding or allotment which I inspected the peasant farmer and two of his children were suffering from Melitensis septicæmia, none of them were notified and none of them were even under medical observation. Statistics from the military records, however, show clearly that the officer has a much greater liability to attack than the men, although the disease is much less fatal in the officer.

Occupation.—Statistics dealing with the relationship existing between occupation and the incidence of Melitensis septicæmia are not available so far as concerns the civilian population of Malta. Figures obtained from the services, however, show that a very close association used to exist between the occupation—if occupation it may be called—of the invalid and the incidence of the disease. This is well shown by a table prepared by Johnstone (Mediterranean Fever Commission Reports, Part II.) for the three large hospitals of the island—civil, naval, and military respectively. An equally if not more dangerous occupation was that of nursing, as is shown by returns of cases amongst the staffs of both military and civil hospitals. Of the rank and file of the army the occupations that showed the heaviest incidence were barrack cooks, officers' servants, mess waiters, grooms, and laboratory attendants, which together supplied more than one-fifth of the entire number of cases occurring in the garrison, and on tabulating the cases in the army in 1905, under what may be termed the "dangerous" occupations, we find that together they are responsible for 78 out of a grand total of 144 admissions for Melitensis septicæmia:—

Dangerous Occupations.

Hospital in-patients	23
Royal Army Medical Corps orderlies	16
Barrack cooks...	16
Officers' servants	12
Mess waiters	6
Grooms	3
Laboratory attendants (also Royal Army Medical Corps orderlies)	2
	78

MEDICAL INSPECTION OF SCHOOL CHILDREN.—At a meeting of the Gloucester education committee held on May 30th it was decided to appoint an assistant medical inspector of school children at a salary of £250 per annum, increasing to £300 by annual increments of £10.

The Ingleby Lectures

ON

THE DANGERS AND TREATMENT OF MYOMA OF THE UTERUS.

Delivered at the University of Birmingham on May 7th and 14th, 1908,

By CHRISTOPHER MARTIN, M.B., C.M.
EDIN., F.R.C.S. ENG.,
SURGEON TO THE BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.

LECTURE II.[1]

Delivered on May 14th.

GENTLEMEN,—In my first lecture I discussed the various dangers of myoma and the complications that may arise. I also pointed out the slender hope there was of a natural cure by extrusion of the growth per vaginam, by absorption after confinement, or by atrophy at the menopause. To-day I propose to direct your attention to the treatment of the disease. We may divide the various remedial measures into the medical and the surgical. Let us first consider the *medical (or non-surgical) methods of treatment.*

I.—NON-SURGICAL TREATMENT.

If a patient has only a small myoma, which is not growing, not causing pain, severe hæmorrhage, or interference with her health or comfort, we are not justified in advising her to undergo an operation. The case should be watched and the growth examined at regular intervals to see if it be really quiescent. A fibroid which is not actively growing may yet vary in size from time to time, being larger and more vascular just before the period and smaller after it. This is most noticeable in those cases where there is much menorrhagia. Hence, to ascertain if the tumour be *really growing or not it should be examined at the same* time after each period—say one week after the cessation of menstruation.

Rest.

It is important that a patient with a troublesome myoma should rest as much as possible. During the period she should stay absolutely in bed. If there be a tendency to flooding the foot of the bed should be raised from 12 to 18 inches on blocks. In the intervals between the periods she must avoid all strain and fatigue. Any physical exercise, if at all violent, may bring on sudden and alarming bleeding. Hence dancing, horse-riding, and cycling must be forbidden. One of my myoma patients lived in the country and used to cycle a good deal. She found that, whilst walking never brought on hæmorrhage, cycling frequently did so, and on one or two occasions caused such a severe flooding that she fainted on the road and had to be carried home. If the patient be married she should be warned of the dangers of pregnancy. In these cases I think it is our duty to tell the woman and her husband to take suitable measures to prevent conception. In all cases of polypus, in most submucous and in many interstitial fibroids, it will be found that sexual intercourse is apt to start hæmorrhage. In such cases coitus must be forbidden.

Supporting the Uterus.

The patient should be forbidden to wear corsets, as they tend to press the tumour down into the pelvis. At the same time, by obstructing the abdominal veins they keep up a condition of chronic venous congestion in the uterus and so favour hæmorrhage. On the other hand, the wearing of a light abdominal belt is sometimes beneficial, especially where the tumour is subserous, of large size, and is pressing on the bladder, the pelvic veins, and nerves. Here a well-fitting belt may comfort her by taking some of the weight of the tumour off these structures. It is sometimes useful to support the uterus from below by means of a pessary, especially in those cases of small myomata which cause retroflexion and retention of urine. In such cases the urine should be drawn off with a catheter, the patient placed in the genu-pectoral position, the impacted tumour pushed up out of the pelvis, and a large ring pessary adjusted.

---

[1] Lecture I. was published in THE LANCET of June 6th, 1908, p. 1603.

Drugs.

The treatment of myoma by drugs is unsatisfactory and resolves itself into the alleviation of symptoms. By far the most important of these is hæmorrhage.

Ergot is our chief remedy for the control of the bleeding and in many cases is of great value. It excites the contractions of the uterine muscle, and by pressing together the opposing surfaces of the mucosa checks excessive bleeding. To some extent it also acts by causing contraction of the small arterioles. I know of many cases where patients have taken ergot in drachm doses thrice a day for years and I have never seen it produce ergotism. Its use, however, is not free from objection. As Dr. Thomas Wilson has pointed out, when the heart muscle is degenerated ergot is contra-indicated. It contracts the arterioles all over the body and so increases the resistance to the left ventricle. The liquid preparations of ergot sometimes upset the digestion. In such cases it will be found that ergotin given in pill or tablet form agrees better with the stomach. It may be given hypodermically but there are many objections to this as a regular mode of administration. It is painful, and if not given with aseptic precautions may give rise to small abscesses at the seat of puncture. In emergencies, however, as when a patient is flooding severely and prompt action is necessary, a sterile preparation of ergot given hypodermically is of great value. But beyond controlling the hæmorrhage I doubt if ergot has any good effect on a myoma. The uterine contractions which it excites tend to convert an interstitial fibroid into either a subserous or submucous one. If the latter, whilst it is true that the growth becomes more accessible from the vagina, the tendency to flooding is increased. In any case, I think the prolonged use of ergot predisposes to degeneration and necrosis of the fibroid by interfering with its blood-supply.

Hydrastis is often prescribed with ergot in the form of tablets. It is an astringent to the uterine mucosa and so helps to check the menorrhagia and leucorrhœa due to the endometritis so often present. As far as I know it has no direct effect on a fibroid.

Cotarnine is a derivative of morphia and, in the form of styptol, has been recommended in cases of myoma. I have tried it in several cases but I cannot say I have seen much benefit result.

Calcium chloride has the property of increasing the coagulability of the blood, and in this way favours the natural arrest of hæmorrhage. It is thus undoubtedly of service in bleeding fibroids.

Bromide of potassium, iodide of potassium, and chlorate of potassium have all been advised in myomata but I doubt if any of them do real good. Lawson Tait, following Sir James Simpson's teaching, was in the habit of treating most cases of metritis, subinvolution, and small myomata with chlorate of potassium combined with ergot. He claimed that it was a sedative to the uterus and caused absorption of chronic inflammatory deposits. All the potassium salts are muscle poisons and tend to weaken the uterine contractions. But for the same reason they are also heart depressants and where the heart is failing may do positive harm. Bromide of potassium may be of service in allaying nervous irritability and in promoting sleep. I have never seen any benefit result from the administration of iodide of potassium, or indeed any of the preparations of iodine. I am sceptical, therefore, as to the virtues of the iodine and bromine waters of certain spas, such as Woodhall, Kreuznach, &c. Undoubtedly many patients return benefited from a visit to such health resorts—especially if there was not much the matter when they went. The change of air and scene, the freedom from home worries, the mental and physical rest enjoyed, and the regulation of the patient's diet, bowels, and habits of life—to these factors we must give the credit of whatever improvement takes place.

Tonics.—When a patient is anæmic, weak, and exhausted it is customary to give her tonics, especially iron. Whilst iron picks the patient up and stimulates the blood-forming organs it may prove a dangerous remedy by exciting alarming hæmorrhage from the uterus. It often does far more harm than good. The organic preparations of iron—such as the peptonate—seem to be less hurtful than the inorganic metallic salts. In cases of profound exhaustion it is safer to give strychnine, strophanthus, easily assimilated preparations of phosphorus, and above all the various preparations of hæmoglobin.

Laxatives.—A myomatous woman should keep her bowels well open, as constipation tends to increase congestion of the uterus through scybala pressing on the ovarian veins. Straining at stool may bring on hæmorrhage from the uterus. Further, fibroids frequently cause piles from pressure on the rectum and these as a rule are aggravated by constipation. Some mild laxative, such as cascara, sulphur, compound liquorice powder, or a saline aperient water, should be ordered.

Vaginal Plugging.

Plugging the uterus and vagina is of great help in controlling dangerous bleeding. It may tide a patient over a bad flooding and allow her to gain some strength before undergoing an operation. When called to a patient collapsed, blanched, and nearly pulseless from uterine hæmorrhage it is madness to attempt a big surgical operation such as hysterectomy. The best treatment is to put her on her side, pass a Sims's speculum, and draw down the cervix with vulsella. If the cervix be found dilated the uterine cavity should be firmly plugged with a long strip of iodoform gauze. The first few inches of gauze may be soaked with advantage in a solution of adrenalin. The rest of the vagina should then be firmly plugged with some antiseptic material, such as iodoform gauze or dry boric lint. A firm abdominal binder should be applied to exert counter-pressure on the uterus. The plugging should be removed from the uterus and vagina every 48 hours and fresh material reapplied. In this way the bleeding is controlled and the patient given time to rally. Should the myoma be submucous (and these are the cases in which there is most bleeding) the gauze packing slowly dilates the cervix and renders easy the subsequent removal of the growth. It is most unwise to apply styptics, such as alum or perchloride of iron, to the interior of the uterus to check bleeding. They lead to the formation of hard clots which, decomposing, cause sepsis and precipitate the onset of necrosis.

Electrolysis.

There is a mystery—a glamour—about electrolysis which allures patients who have a horror of the knife and who grasp at any alternative which promises relief. As a means of treatment it has been given a careful trial by scores of gynæcologists and has now been abandoned as futile and dangerous. Vineberg analysed Keith's and Engelmann's statistics, and found that out of 372 cases there were five deaths and only nine cures. Martin and Mackenrodt report 36 cases, of which 16 were distinctly made worse and three died—one from pulmonary embolism, one from necrosis, and one from suppurative peritonitis. In some cases temporary benefit was obtained in the arrest of hæmorrhage from the congested endometrium. But when the treatment was stopped the symptoms returned. In other instances, especially where the electrode was thrust into the growth, acute necrosis of the tumour occurred and endangered the patient's life. It seems to me just as rational to thrust a red-hot poker into the heart of a myoma and expect a cure to result.

II.—SURGICAL TREATMENT.

Bearing in mind the manifold dangers and complications that threaten the myomatous woman, the slender hope there is of a natural cure, and the inadequacy of non-surgical remedies, we are driven to look for help from surgery. I admit it is a choice of evils—no woman wishes to undergo an operation if she can be cured by milder measures. In the early days of abdominal surgery the major operations for the removal of a fibroid resulted in such a frightful mortality that they were only undertaken as a *dernier ressort*. But now, thanks to a more perfect asepsis and an improved technique, modern surgeons can show such a low death-rate that in the great majority of cases a radical operation can be conscientiously advised. Before discussing the merits and demerits of the various operations for myoma, let me briefly state the indications for and against surgical interference.

Contra-indications to operation.—I would not advise an operation: (1) where the tumour is smaller than an orange, is causing no symptoms, and is not growing; (2) where the patient is past the change of life and the myoma is quiescent and causing no trouble; or (3) where the patient is gravely ill from some other condition—such as phthisis, heart disease, or kidney disease—which will of itself prove fatal before long.

Indications for operation.—On the other hand, an operation is called for: (1) where there is severe bleeding, uncontrolled by rest and ergot; (2) where there is rapid or persistent growth of the tumour; (3) where there are signs of degeneration, necrosis, or malignant disease; (4) in many cases complicated with pregnancy; (5) in cases complicated with gross lesions of the ovaries and tubes; (6) where there are marked symptoms of pressure on the urinary organs; (7) where the tumour is very large and from its great bulk and weight becomes a burden; (8) in some single women where the tumour, from its size, leads to unfounded suspicions of pregnancy and causes the patient much unhappiness; and (9) in cases of sterility due to the presence of a myoma which can be removed without sacrificing the uterus. No hard and fast rule can be laid down. Each case must be considered on its merits and the question of operation decided only after due consideration of the condition of the tumour, its rate of growth, the gravity of the symptoms caused by it, and the state of the patient's general health. The operations for myoma may be divided into: (1) those performed per vaginam; and (2) those that involve abdominal section. Let us first consider the vaginal operations.

Vaginal Operations for Myoma.

Curetting.—Curetting should be performed, after the removal of a fibroid polypus or a submucous myoma, in order to cure the endometritis which generally accompanies these conditions. In some interstitial tumours, if done cautiously and aseptically, it may also do good by checking the leucorrhœa and menorrhagia, and so giving a feeble patient time to regain her strength. It is seldom, however, of more than temporary benefit, and is not without risk. If the tumour be submucous, it may cause necrosis by opening the capsule of the growth and allowing germs to get access to its structure. Further, in cases complicated with pyosalpinx or ovarian abscess curetting may be positively dangerous by the manipulations causing the pus sac to burst into the peritoneum.

Removal of polypi.—A fibroid polypus should be removed as soon as discovered. It is an easy and safe operation. In most cases it is enough to seize it with vulsella and twist it off. If the growth be large and the pedicle broad and vascular it is safer to control the bleeding with a ligature. I usually crush the pedicle with strong Spencer-Wells forceps and then tie a fine silk ligature in the groove left by the forceps. Occasionally a fibroid polypus is met with of colossal size, filling the pelvis and lifting the uterus up into the abdomen. In such cases the growth must be cut away piecemeal before the pedicle can be reached. Patients with fibroid polypi are often quite blanched from long-continued hæmorrhage, but if there be no other complication they make a rapid recovery.

Vaginal myomectomy.—Vaginal myomectomy was first performed by Amussat in 1840. The technique was developed by Atlee, Emmet, and Thomas, and perfected in recent years by Péan and Doyen. It is the operation, *par excellence*, for the removal of submucous growths. These are usually, but not invariably, single. They cause very severe bleeding; and, if of large size, block the pelvis and cause retention of urine. The uterine contractions tend to force the growth downwards, to dilate the cervix, and to convert the tumour into a fibroid polypus. During this process there is a great risk of necrosis occurring. Hence every submucous tumour should be removed without delay. Where the cervix is dilated it is usually easy to enucleate these growths, after the mucous membrane and thin remains of the capsule have been divided. If the cervix be insufficiently dilated it may be split with scissors vertically in the middle line. The growth then becomes accessible and may be removed either whole or piecemeal (*morcellement*). The cervical wound may then be closed with catgut and the uterus preserved entire. It is an ideal method in sterile women anxious to have children, and it is the one always indicated in cases of necrosing submucous fibroids. It is, however, sometimes a long and difficult operation and the patient may lose much blood before it is finished. It is usually unwise to attempt it if the tumour be larger than the fœtal head at term. During the years 1892 to 1908 I find that at the Birmingham Hospital for Women the operation of vaginal myomectomy was performed in 34 cases, with two deaths—a mortality of 6 per cent.

Ligature of the uterine arteries.—This operation was introduced by Dr. Franklin Martin of Chicago, but it has not found much favour in this country. The object is to cut off most of the blood-supply of the uterus, to check the menorrhagia, and cause the tumour to atrophy. But there is such a free anastomosis between the uterine and ovarian arteries that the latter rapidly enlarge, and soon the womb is as well supplied with blood as before. Moreover, a sudden and very marked decrease of the blood-supply may cause necrosis of the growth. It is quite an easy operation. An incision is made in each lateral fornix, the enlarged uterine arteries are felt for, exposed, and tied with stout silk—taking care, of course, to avoid including the ureter. I have performed it in two cases, but without any benefit to the patients.

Vaginal hysterectomy.—The operation of vaginal hysterectomy was first introduced for the treatment of cancer, and is said to have been performed in 1560 by Cruce of Granada, in Spain. Scattered through the surgical literature of the seventeenth, eighteenth, and early nineteenth centuries we find reports of cases by various German, French, and Italian surgeons. Hunter in 1799 was the first to do it in Great Britain, Warren in 1829 in America. The modern operation for cancer we owe largely to the German surgeons—Czerny, Schroeder, Olshausen, Fritsch, and Martin—who, from 1875 onwards, gradually developed the method. On the other hand, for the extension of vaginal hysterectomy to the treatment of myoma we are indebted to the French surgeons, chiefly to Péan in 1883, followed by Doyen and others. It is the best operation to perform in cases of small myomata—other than those which can be enucleated without sacrificing the uterus. It removes the whole of the disease; it does not involve an abdominal scar, and it is attended with but moderate risk to life. In my own practice, hospital and private, I have, up to date, performed the operation for myoma 73 times, with three deaths, a mortality of 4 per cent. It may be a dangerous operation when the uterus, with its myoma, is larger than a three months' pregnancy, if it be fixed by adhesions, if the case be complicated by pyosalpinx or ovarian abscess, or if the vagina be very narrow and rigid. In such cases it is safer to open the abdomen and remove the uterus from above. Some years ago I lost a case by not following these rules. The woman was exhausted by long-continued hæmorrhages from a big submucous myoma. I split open the uterus, enucleated the growth piecemeal, and then removed the rest of the uterus by vaginal hysterectomy. The operation, which took about two hours, was a long, difficult, and bloody one, and the patient never rallied from the shock. Had I opened from above and performed abdominal hysterectomy I feel sure I should have saved her.

Abdominal Operations for Myoma.

We now pass to the consideration of the more important abdominal operations for myoma. These fall under three headings: (1) removal of the uterine appendages (where the ovaries and tubes are removed, but the uterus with the tumour is left behind); (2) hysterectomy (where the tumour, together with most or all of the uterus, is removed); and (3) myomectomy (where the tumour is removed, but the entire uterus is saved).

Removal of the uterine appendages.—This operation was first performed by Lawson Tait in this city in 1872 and to the day of his death he was its leading exponent. It was, *par excellence*, "Tait's operation"; and for nearly a quarter of a century it held the field against all rivals. It was a fairly safe operation when the tumour was a small one, but a risky and unsatisfactory one when it was large. I find that during the years 1882 to 1908 it was performed at the Birmingham Hospital for Women 300 times with 15 deaths—a mortality of 5 per cent. In my own practice I have removed the appendages for small myomata 20 times with one death (a mortality of 5 per cent.), and for large myomata eight times with two deaths (a mortality of 25 per cent.). I have not performed the operation myself since 1896. In about 90 per cent. of the cases that recovered menstruation ceased and the tumour shrank, though I doubt if it ever completely disappeared. But in the remaining 10 per cent. the patient was not cured; the floodings continued, the tumour grew, pressed on the bladder, rectum, and pelvic nerves, and rendered the patient's life a burden to her. Moreover, it was found that even when the operation removed the symptoms due to the myoma it often led to others of a nervous character equally distressing. Such were intense heats and flushes, palpitation, headaches, nervous depression, and pelvic neuralgia. Some of these patients became neurasthenic wrecks. These sequelæ were no doubt due to the sudden cessation of the internal secretion of the ovaries—something which they manufacture, and add to the blood circulating through them, and which is essential to the well-being of the nervous system. It was these failures and bad after-effects that shook the faith of surgeons in the operation and led them to search for some more excellent way. When it was found that by improved methods we could reduce the mortality of hysterectomy and myomectomy to under 5 per cent. the operation of removal of the appendages was abandoned. None the less should we honour Lawson Tait for his genius in devising this operation and his courage in advocating it. It was at the time a great advance in gynæcology and it saved thousands of lives that would otherwise have been sacrificed.

History of abdominal hysterectomy.—The history of abdominal hysterectomy is interesting and shows by what slow and painful steps the modern operation has been evolved. The successes of to-day have been attained only after years of failure and disaster. Lizars in 1825 and Nathan Smith about 1830 opened the abdomen for supposed ovarian tumours, but finding myomata instead closed the wound without attempting their removal. Clay of Manchester performed the first hysterectomy for myoma in 1843, but his case died. He was followed by Heath in 1843 and Bellinger in 1846, also with fatal results. Burnham in 1853 did the first successful hysterectomy in America. The first successful hysterectomy in Europe was performed in 1861 by Koeberle of Strassburg who invented for the purpose the serre-nœud (or as it is commonly, but wrongly, called the "clamp"). This was an instrument by which the uterine stump was constricted by means of a wire nooze fixed in the lower angle of the wound and allowed to slough away. This extraperitoneal method—improved from time to time by Lawson Tait, Thomas Keith, and J. W. Taylor—was practised for 30 years. It was then displaced by more modern methods, with intraperitoneal treatment of the stump. We distinguish two varieties of intraperitoneal hysterectomy: (*a*) panhysterectomy, or removal of the whole uterus, including the cervix; and (*b*) supravaginal hysterectomy, where the body of the uterus is excised but the cervix is left behind.

Panhysterectomy was first performed by Bardenheuer in 1881 and he recorded seven cases with six recoveries. Mary Dixon Jones in 1888 was the first to do it in America. In this country the first to do the operation was Jessett in London in February, 1892, followed by Smyly in Dublin in the autumn of the same year. I believe I was the first to perform panhysterectomy in the provinces in 1895. In February, 1896, I read a paper before the Edinburgh Obstetrical Society describing the method of procedure and giving details of eight successful cases. Since then the method has been ably advocated by Stanmore Bishop of Manchester and Herbert Spencer of London.

The operation of supravaginal hysterectomy was really first performed in America in 1855 by Kimball, who ligatured and dropped the stump into the abdomen. It fell into abeyance till 1892 when Baer devised the modern operation where, after ligature of the ovarian and uterine vessels, the cervical stump is covered by suturing together the anterior and posterior flaps of peritoneum. This is now the favourite procedure with most gynæcologists and in the hands of such skilled surgeons as Bland-Sutton, Doran, and Haultain is followed by brilliant results,

Extraperitoneal hysterectomy.—The extraperitoneal operation was that always performed by Lawson Tait in those cases in which it was impracticable to remove the uterine appendages. The uterus, with the tumour, was delivered through the abdominal wound, transfixed with steel pins as low down as possible, and strangulated below the pins with an iron wire drawn tight by means of the serre-nœud or "clamp." In some cases a rubber tourniquet replaced the wire. The tumour beyond the pins was then cut away and the wound above it closed. The stump underwent acute necrosis and in about a week became a black, gangrenous, horribly offensive mass. This sloughed off in from 10 to 20 days, leaving a huge gaping septic chasm which took many weeks to close. It was a murderous operation, and those who recovered did so only by the skin of their teeth. They had to run the gauntlet of secondary hæmorrhage, septicæmia, peritonitis, and rupture of the septic wound with extrusion of the bowels. The death-rate was terrible—so great, indeed, that in the annual report of the Birmingham Hospital for Women for 1891 the medical staff announced that they had practically abandoned the operation.

On looking over the statistics of the hospital I find that from 1879 to 1900 extraperitoneal hysterectomy for myoma was performed 58 times with 20 deaths—a mortality of 34 per cent. In my own practice I have done the operation only eight times with two deaths—a mortality of 25 per cent. My last case was in 1895, after which I adopted the intraperitoneal method.

Intraperitoneal hysterectomy.—Under this heading we include: (1) panhysterectomy, where the whole of the uterus, including the cervix, is removed; and (2) supravaginal hysterectomy, where the cervix is left behind. Both methods have their advocates. For some years I clung to panhysterectomy as the better operation. Increased experience, however, has convinced me that in most cases supravaginal hysterectomy is preferable. It is safer for the patient and less difficult for the surgeon. The ureters and bladder are less in danger, the germ-laden vagina is not laid open to the peritoneum, and there is less interference with the integrity of the pelvic floor. The chief argument urged against supravaginal hysterectomy is that the cervix, which is left behind, may become the seat of cancer. But I do not think statistics support this objection. Therefore, contrary to what I taught in 1896, I now hold that, whenever possible, supravaginal hysterectomy should be performed in preference to panhysterectomy. The latter should be reserved for cases where the cervix is involved in the myoma or otherwise diseased. Let me briefly describe the steps of the operation, The first essential is perfect asepsis in every detail. This is far more important than speed or dexterity. The surgeon and his assistant should both wear sterilised rubber gloves over sterilised hands. Instruments, ligatures, swabs, and water are, of course, all duly sterilised. The patient should be placed in the Trendelenburg position and the operating room should have a good top light. The abdomen is freely opened and the uterus, with the tumour, is delivered through the incision. In effecting this Doyen's myoma screw is of great value, especially when the tumour is impacted in the pelvis. The ovarian vessels and the round ligaments on both sides are ligatured with silk and divided. If possible at least one ovary should be saved. The knife is run lightly across the peritoneum, in front of the tumour, above the level of the bladder, and along a corresponding line behind. If there has hitherto been any difficulty in fully delivering the growth it now comes easily up into the wound. The uterine arteries can now be felt pulsating on each side of the cervix. They must be carefully ligatured close to the uterus to avoid the ureters. The cervix is now cut across about the level of the internal os and slightly hollowed out to leave a cup-shaped surface. The muscular tissue of this concave stump is drawn together with a single row of interrupted sutures of fine silk. These suffice to control the capillary oozing. The anterior and posterior flaps of peritoneum are now sutured over the stump. Similarly, the anterior and posterior layers of the broad ligaments are brought together. The result is that, at the close of the operation, there is only a neat transverse seam running across the pelvis. The abdominal incision is closed and the patient put back to bed. It is an easy operation if the patient be thin and the tumour be confined to the body of the uterus. It may be a very difficult one in a fat woman or where the myoma has invaded the broad ligament or developed in the cervix. Whenever possible, one or both ovaries should be left behind, so as to preserve for the patient their "internal secretion." If one or both can be saved removal of the uterus causes practically no climacteric disturbances, whilst if both be removed the patient suffers severely. Of course, if both ovaries be diseased they must be taken away. The after-results of intraperitoneal hysterectomy are excellent. The patient usually makes an uninterrupted recovery and gets up with a soundly healed wound at the end of a fortnight. The mortality of the operation is small. In my own practice, private as well as hospital, I have done 51 panhysterectomies for myoma, with two deaths—a mortality of 4 per cent. I have performed 142 supravaginal hysterectomies, with three deaths—a mortality of 2 per cent.

Abdominal myomectomy.—By this we mean the removal of one or more myomata from the uterus by abdominal section, without removal of any part of the uterus. It was first performed by Atlee as long ago as 1844 but I believe this was only the removal of a pedunculated subserous fibroid. The modern operation (in which the tumours are enucleated from the substance of the womb, followed by suture of the uterine incisions and conservation of the whole organ) we owe chiefly to Martin of Berlin, Olshausen, and Kelly. It is the ideal operation for myoma and will, I believe, ultimately supersede hysterectomy for all but a small minority of cases. It removes the tumour and leaves the uterus intact. It causes no climacteric symptoms and, most important of all, it does not sterilise the patient. It may, indeed, cure sterility by removing a tumour which was preventing conception or interfering with pregnancy. It may be performed during pregnancy without necessarily interrupting the gestation or adding to the risks of the subsequent labour. In 1891 I was called in to see a case by Dr. Langsford Clay. The patient was aged 37 years and was three months pregnant. She had also two large fibroids which were causing great suffering. She had been married for many years without having been pregnant before and she was very anxious to have a child. I opened her abdomen, made incisions over the tumours, shelled them out of the uterine wall, sewed up the incisions, and closed the wound. The patient made a good recovery. She did not abort but went to term and was safely delivered of a living boy.

I have removed from the one uterus as many as eight separate myomata varying in size from that of a plum to that of the fœtal head. I always use fine silk sutures to close the uterine wounds—in one, two, or three superimposed layers. The success of the operation depends on the care with which these sutures are inserted, on the complete arrest of bleeding, and on perfect asepsis in every detail. Done carefully it is a very safe and satisfactory operation. I have now performed abdominal myomectomy 73 times with one death—a mortality of 1·3 per cent. The operation is as yet only in its infancy, but I am convinced it is the method of the future. Low as its death-rate is now, our aim must be to reduce it to zero.

Here I must draw to a close. Much has been accomplished but more remains to be done. The end of the nineteenth century witnessed a great advance in gynæcology, notably in the treatment of myoma. In the coming years I look forward to still more glorious achievements by our brethren—those workers for humanity seen in the poet's vision—

> "Ever reaping something new :
> That which they have done but earnest of the things that they shall do."

A CONTRIBUTION TO THE BACTERIOLOGY OF CEREBRO-SPINAL MENINGITIS.

By W. JAMES WILSON, B.A., M.D. R.U.I.,
D.P.H. Cantab.,
JOINT LECTURER ON SANITARY SCIENCE, QUEEN'S COLLEGE, BELFAST.
(*From the Musgrave Pathological Laboratory.*)

Part I.—A Gram-negative Diplococcus occurring in the Fæces of Cerebro-spinal Fever Patients.

At the present time, when so much attention is being paid to Gram-negative cocci, a description of an organism of this class found by me on three occasions in the stools of cerebrospinal fever cases may be of interest.

This organism, though bearing a superficial resemblance to the meningococcus, is quite distinct from it and that it had nothing to do with the meningitis from which the patients suffered was shown by the following facts: (1) typical meningococci were cultivated from their cerebrospinal fluid; and (2) the blood serum of these cases had a high opsonic index as regards the true meningococcus, but a normal index as regards this organism. The organism is of interest from the fact that its habitat is in the intestine. Tissier[1] in a recent paper refers to two obligatory anaerobic Gram-negative cocci occurring in the stools of young children. To these species the names staphylococcus parvulus and diplococcus orbiculus have been given. The researches of Dunham,[2] Goodwin and Sholly,[3] Gordon,[4] Arkwright,[5] and others have demonstrated the constant occurrence of aerobic Gram-negative cocci in the nasopharynx, but I can find no reference to their presence in fæces.

Further research may show the presence in the intestine not only of Gram-negative cocci simulating meningococci but also of the meningococcus itself, since the progress of research more and more indicates the intestine as the route by which pathogenic organisms enter the system.

Characters of this Organism.

Morphology.—It is a diplococcus having the coffee-bean appearance of the meningococcus but is somewhat smaller. In broth cultures it appears as ovate diplococci but short chains consisting of four to six individuals are also seen. It entirely fails to retain the dye in staining by Gram's method.

Cultural characters.—On agar stroke cultures appear as a thin film of growth, greyish by reflected, bluish by transmitted, light. Agar plates: surface colonies at the end of 48 hours at 37° C. have a diameter of 5–7 millimetres. They are circular, have an even edge, and are somewhat like meningococcal colonies, but are less raised. The flatness of the colonies renders them more transparent than those of the meningococcus and very much less opaque than those of the micrococcus catarrhalis. The colonies have a curious ringed appearance which may be compared to that presented by a transverse section of a young tree. The deep colonies are of a brownish yellow colour and shaped like a whetstone. The growth on gelatin at 20° C. is good and is very similar to that on agar. No liquefaction of the medium occurs. Bouillon becomes uniformly turbid. No formation of a pellicle on the suface. In litmus milk no acid formation and no coagulation, but bleaching of the litmus occurs. In bouillon containing 1 per cent. of glucose, lævulose, galactose, lactose, maltose, saccharose, mannite, and salicin respectively no acid or gas formation occurs, but instead increase of alkalinity.

The vitality of the organism is good as a subculture can readily be obtained from a culture two months old.

Pathogenicity.—A guinea-pig was inoculated intraperitoneally with the contents of three agar cultures without presenting any ill-effects.

Like that of the meningococcus the growth of this organism on an agar or ascitic agar tube forms a good emulsion with normal saline solution and there is no tendency to clump formation, in these respects differing markedly from the micrococcus catarrhalis. In its absence of acid production in sugar-containing media this organism resembles the micrococcus catarrhalis, but morphologically it is smaller than the latter and culturally the surface colonies are not so opaque. From the meningococcus it is distinguished by its greater vitality, its growth at 20° C., and by the fact that the meningococcus forms acid in media containing glucose. These same characteristics distinguish it from the gonococcus.

The organism is of interest as being an intestinal saprophyte from which a pathogenic parasite might possibly be evolved. That organisms of the same class may be pathogenic is shown by the fact that a coccus somewhat resembling this one was obtained by W. E. Marshall from a case of cerebro-spinal meningitis. J. A. Arkwright[6] gives the following description of Marshall's organism: "On subculture, however, it grew well on agar but always discretely, and the colonies were whiter than those of the meningococcus. It grew in broth, rendering the medium uniformly turbid, and the colonies on agar were not coarsely granular, and were moist and rather sticky. An emulsion was easily made and did not agglutinate spontaneously. In these respects it resembled the meningococcus very closely, but it grew on gelatin at 22° C. without liquefaction; it failed to produce acid from glucose, maltose, or galactose, and an emulsion was not agglutinated by meningococcic serum in dilutions of 1 in 2 and 1 in 10. Moreover, in a film from the original colony the cocci were rather larger and stained better with methylene blue than it is usual for meningococci to do. It is therefore clear that this organism is not the meningococcus. It resembles micrococcus cinereus of v. Lingelsheim in most particulars."

In Part II. a description is given of a case of cerebrospinal meningitis, in which the infecting micro-organism was very similar to, but not identical with, the one just described.

Part II.—Cerebro-spinal Meningitis due to Infection with an Organism of the Micrococcus Catarrhalis Class.

At the present time cerebro-spinal meningitis and influenza are present in epidemic form in Belfast. It has been shown in a previous communication by Professor W. St. C.

---

[1] Tissier: Annales de l'Institut Pasteur, February, 1908, tome xxii., No. 2, p. 139.

[2] Dunham: Journal of Infectious Diseases, 1906, Supplement No. 2, p. 10.

[3] Goodwin and Sholly: Ibid., p. 21.

[4] Gordon: Report to the Local Government Board on the Micrococcus of Epidemic Cerebro-spinal Meningitis, &c., 1907.

[5] Arkwright: Journal of Hygiene, January, 1907, p. 145

[6] Arkwright, ibid., April, 1907, p. 199.

Symmers and myself[7] that the majority of the cases of meningitis are due to infection with the micrococcus intracellularis meningitidis (Weichselbaum). In certain cases, however, we have found that the symptoms were due to infection with such different organisms as the pneumococcus (one case), streptococci (seven cases), the bacillus typhosus (one case), the bacillus enteritidis of Gaertner (one case), and the bacillus anthracis (one case).

The present case is of interest in that the infecting organism was one of the micrococcus catarrhalis class. The clinical history (for an account of which I am indebted to the kindness of Dr. Herbert H. Prentiss, resident medical officer at the Belfast Fever Hospital, Purdysburn) is similar to that of a fulminant attack of cerebro-spinal fever.

The patient, an infant, aged three months, was admitted to hospital at 12.30 A.M. on Feb. 21st, 1908, with a history of an illness of 21 hours' duration. The child was first noticed to have difficulty in breathing; then to become peevish and to cry incessantly. On admission the temperature was 97° F. and the pulse was rapid. The skin was normal except for a few petechial spots on the buttocks. The eyes, the ears, and the throat were normal. There was no rigidity of the neck or of the spine. A slight indication of Kernig's sign was present. The heart and lungs were normal. The lymphatic glands in the posterior triangle of the neck and in the right axilla were enlarged and shotty. The tongue was slightly furred. On Feb. 21st the temperature throughout the day showed a steady rise, being 98·4° F. at 9 A.M., 101° at 5 P.M., 102° at 9 P.M., and 103° at 1 A.M. The child never ceased crying and never slept. There were a petechial rash and mottling over the buttocks, the lower limbs, and the back. The fontanelles were bulging. Lumbar puncture was performed at 3 P.M. and six drachms of turbid fluid were obtained and 30 cubic centimetres of Flexner and Jobling's serum were injected. At 7.20 P.M. convulsions were present, almost all the muscles of the body twitching. The eyes twitched from side to side and up and down. There were frothing at the mouth and vomiting. All the surface of the body except the palms of the hands and the soles of the feet was covered by dark bluish-red patches and blotches which faded on pressure. The pulse was very rapid and weak. Respiration was rapid. Death took place at 2 A.M. Thus the total duration of the illness was about 47 hours.

The lumbar puncture fluid was turbid and there was a large deposit of pus cells. A film made from the deposit and coloured with Leishman's stain showed large numbers of leucocytes and diplococci. Many of these cocci were extracellular and many intracellular, the extracellular staining well, the intracellular faintly. Most of the cells contained granules; some of these cells had the typical appearance of polymorphonuclear leucocytes, in others the nucleus was round and undivided; both varieties, however, were markedly phagocytic. A differential count of 200 cells gave the following result. Granular cells, polymorphonuclear 35 per cent. and mononuclear 59 per cent.; transitional cells, 3 per cent.; large lymphocytes, 1·5 per cent.; and small lymphocytes, 1·5 per cent.

Characters of Organism.

Morphology.—Diplococci having the coffee-bean shape and size of the meningococcus. Short chains of four individuals occur and here and there threads of considerable length which only at their ends show evidence of segmentation into cocci. The cocci, which are quite Gram-negative, stain more uniformly than meningococci, there being few degenerate forms.

Cultural characters.—On agar the organism grows well, the growth being greyish by reflected and somewhat bluish by transmitted light. The growth is more opaque than that of the meningococcus. Subcultures as well as the original culture made from the cerebro-spinal fluid grew well on agar, in this respect differing from the meningococcus which requires the addition of ascitic fluid or serum to enable it to grow when recently isolated. On gelatin at 20° C. good growth occurs without liquefaction. In stab cultures there is a greyish streak of growth along the stab and on the surface a very opaque white colony. On the Drigalski-Conradi medium good growth occurs. This is an important distinction from the meningococcus, the latter showing no growth on this medium. Bouillon and peptone water become uniformly turbid. No indol is formed. In faintly alkaline litmus bouillon containing 1 per cent. of the following substances, glucose, lævulose, galactose, lactose, saccharose, maltose, dextrin, inulin, glycerine, erythrite, adonit, mannite, dulcit, arabinose, raffinose, salicin, sorbit, and amygdalin, no acid was produced but rather increase of alkalinity. The tubes contained a uniform turbid growth with thin iridescent pellicle on the surface. In many cases bleaching of the medium occurred but the blue colour returned when the tubes were left all night at room temperature. In litmus milk the bleaching of the litmus caused the milk to acquire a pinkish shade. Shaking with air brought back the blue colour. No clot formed. Under the anaerobic conditions obtained by Buchner's tubes good growth occurred and no change in colour was produced in neutral red broth. The vitality of the organism was good, as subcultures could readily be obtained after three weeks at room temperature.

Pathogenicity.—A mouse inoculated intraperitoneally with the contents of one half of an agar slope culture collapsed at once and died in 15 minutes. Another mouse inoculated subcutaneously with the rest of the agar culture died in six hours. There is probably, therefore, present in cultures of this organism substances toxic to mice. A guinea-pig inoculated intraperitoneally with the contents of half an agar tube suffered no ill effects.

The opaque and somewhat granular nature of the colonies on agar and the readiness with which the organism grows on this medium, the occurrence of growth at 20° C., and the absence of any acid production in glucose media, distinguish this Gram-negative coccus from the meningococcus and gonococcus. It conforms in most particulars to descriptions of the micrococcus catarrhalis but differs from it in that it shows a tendency to grow in short chains. This organism forms a uniform emulsion in salt solution and does not clump so readily as the micrococcus catarrhalis.

The early death of the patient prevented me from testing the opsonic index of his blood serum with respect to the meningococcus and this organism. The blood serum, however, of a well-marked case of cerebro-spinal fever which was rich in agglutinins and opsonins for the meningococcus gave a normal opsonic index with respect to this coccus.

A brief *résumé* of the history of the micrococcus catarrhalis may be of interest. This micro-organism was originally found by Seifert[8] in sections of lungs of people who had died from influenza. Kirchner (1890) cultivated it from cases in which the clinical diagnosis was influenza. R. Pfeiffer cultivated it from cases of febrile bronchitis and gave it the name micrococcus catarrhalis. Later (1902) Ghon and H. Pfeiffer found it in a large series of cases of epidemic bronchitis. Bezançon and de Jong[9] (1905) and Dunn and Gordon[10] (1905) found the micrococcus catarrhalis in epidemics simulating influenza. It is of interest to note that in the epidemic described by Dunn and Gordon cerebro-spinal symptoms were present in many of the cases and in one case Gram-negative diplococci were found in the meningeal pus, but a culture could not be obtained. In the same year (1905) Davis[11] closely studied the micrococcus catarrhalis. More recently (1907) Arkwright[12] described an organism which had been isolated from the lumbar puncture fluid of a case of cerebro-spinal meningitis and which differed from the micrococcus catarrhalis (1) in that it formed moist and sticky colonies on agar and (2) in that an emulsion was easily made and did not agglutinate spontaneously. Arkwright states that his organism resembles the micrococcus cinereus of von Lingelsheim in most particulars. The organism described in this paper seems to me to be identical culturally with that described by Arkwright; to test absolute identity would require a determination of the opsonic and agglutinative properties of each. Barker (1908)[13] mentions the discovery of the micrococcus catarrhalis in the lumbar puncture fluid in a case of otitic meningitis.

The Gram-negative fæcal diplococcus differs from the present one in being smaller morphologically and in having a flatter and more delicate growth on agar.

In conclusion, my best thanks are due to Dr. A. Gardner Robb, Dr. Prentiss, and to Professor Symmers for giving me every opportunity and facility to investigate this case.

Belfast.

---

[7] Symmers and Wilson: Brit. Med. Jour., June 22nd, 1907.

[8] Vide article by Neisser in Kolle and Wassermann's "Pathogenen Mikroorganismen," vol. ii., 1903, p. 146.

[9] Bezançon and de Jong (1905): Bulletin et Mémoire de la Société Médicale des Hôpitaux de Paris, vol. xxii., p. 165.

[10] Dunn and Gordon: Brit. Med. Jour., August 26th, 1905.

[11] Davis: Journal of Infectious Diseases, vol. ii., 1905, No. 4.

[12] Arkwright: Journal of Hygiene, 1907, vol. vii., No. 2, p. 199.

[13] Barker: Lumbar Puncture in the Treatment of Otitic Meningitis, Surgical Section of the Royal Society of Medicine, reference in THE LANCET, March 21st, 1908, p. 854.

THE TREATMENT OF INTRACTABLE HAY FEVER AND PAROXYSMAL CORYZA BY RESECTION OF THE NASAL NERVE.

By EUGENE S. YONGE, M.D. EDIN.,
HONORARY ASSISTANT PHYSICIAN TO THE MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT.

FOR those cases of hay fever which may be termed "desperate," where all treatment has proved unavailing, where the patient is condemned to an annual period of miserable discomfort and of complete incapacitation, where, it may be, Ossa is heaped on Pelion by the supervention of chronic asthma or other sequelæ, almost any new plan of treatment that is legitimate is, I think, worthy of trial, provided that there are reasonable grounds for supposing the treatment to be capable of giving relief and assuming that the usual recognised therapeutic measures have been fairly weighed in the balances and found wanting. I propose, in the present communication, to describe a new method of treatment which appears to be applicable for these severe and intractable cases and which, up to the present, has given most satisfactory and encouraging results.

The method is based on the theory that the stimulus which induces the reflex manifestations that are observed in hay fever and in paroxysmal coryza[1] is conveyed to the centres by the nasal nerve (nasal branch of the fifth), this nerve therefore being the afferent path of the reflex. If this theory be correct the prevention of the attacks, which characterise hay fever and its congeners, by resecting a portion of the nerve on each side would apparently be possible. The evidence which can be adduced in favour of the theory may therefore be briefly examined. In this connexion there is to be considered, in the first place, the evidence suggested by a consideration of the distribution and the functions of the nasal nerve; in the second place, that suggested by the effects of a particular form of treatment (cauterisation of the nasal mucous membrane); and in the third place that suggested by the effects of bilateral resection of the nerve.

The distribution and functions of the nerve.—Many of the so-called "reflex nasal neuroses" represent an exaggeration or a tendency to precipitation of the normal nasal reflexes. In this category may, for instance, be included the neurosis known as *paroxysmal sneezing*, also that which is designated *paroxysmal rhinorrhœa* where the predominant symptom is reflex hypersecretion from the nasal mucous membrane. It seems not unreasonable to suppose that morbid or exaggerated reflexes of this character usually, although, of course, not invariably, follow the same afferent and efferent paths as the normal reflexes which they represent. Of the *afferent* paths, with which we are at present mainly concerned, for the normal reflexes of sneezing, of vaso-motor turgescence, and of nasal secretion only that for sneezing has, so far as I am aware, been exactly determined. The observations of Wertheimer and Surmont[2] appear to show that the stimulus for the ordinary sneezing reflex is conveyed by the nasal nerve and it may be conjectured that the stimulus which induces the manifestations of *paroxysmal sneezing* travels up the same nerve. The sneezing which sometimes occurs when a beam of bright light falls on the eye is generally considered to be also referable to this nerve, the impulse travelling from the eye *viâ* the ciliary branches. The afferent impulse for the other reflexes, vaso-motor and secretory, which have been mentioned, is usually stated, in rhinological works, to be conveyed by the "nerves of ordinary sensation," without reference to any special nerve being concerned. The nasal branch of the fifth is, of course, not the only sensory nerve of the nasal cavity as there are filaments, principally derived from the spheno-palatine ganglion, distributed to the posterior parts of the cavity. I believe, however, on theoretical grounds, that the nasal nerve conveys the impulse not only for the sneezing reflex but also for the other normal reflexes referred to. Moreover, I think it is this nerve which is also responsible for the conveection of the abnormal reflexes which are represented in the condition known as paroxysmal coryza and in hay fever, this conclusion being based on a surer foundation than the foregoing—namely, on the effects observed after division of the nerve.

In the clinical manifestations of hay fever we have, I think, a strong suggestion of the part played by the nasal nerve in relation to this malady; for if the clinical manifestations be considered in relation to the distribution of the nerve, it will be found that they closely correspond in localisation to the areas to which the latter is distributed, and, moreover, that the symptoms would be explicable on the assumption that they represent the reflex effects of irritation of the nerve. It will be recollected that the nasal nerve not only supplies the anterior region of the nasal cavity, but also sends branches to the conjunctiva, the lacrymal sac, the iris, ciliary muscle and cornea, the frontal sinus, the skin of the alæ and the tip of the nose, and the skin of the upper and lower eyelids. Let us take now the characteristic symptoms of hay fever. The initial symptom is usually a sensation of itching at the inner canthus. Following upon this is a feeling of irritation in the nose succeeded by sneezing, nasal obstruction, and hypersecretion. The patient may complain of frontal headache or of a sensation of constriction above the eyes. The eye-symptoms consist generally of congestion of the conjunctiva, lacrymation, and redness and swelling of the lids, and a certain degree of photophobia often supervenes. Usually also there is some redness of the skin at the tip and sides of the nose. The following table gives the symptoms of hay fever, together with the distribution of the nasal nerve:—

Branches of the nasal nerve.	Distribution of the branches.	Symptoms characteristic of hay fever (assumed to represent the reflex effects of irritation of the branches of the nasal nerve).
Internal branch.	Anterior part of septum.	Sneezing. Hypersecretion. Nasal obstruction. Relieved or cured by application of galvano-cautery to anterior parts of nasal cavity.
External branch.	Anterior part of external wall of nasal cavity.	
Infratrochlear branch.	Caruncula lacrymalis. Conjunctiva. Lacrymal sac. Integument of eyelids.	Itching at inner canthus. Congestion of conjunctiva. Lacrymation. Redness and swelling of eyelids.
Branch to frontal sinus.	Mucous membrane of frontal sinus.	Frontal headache.
Anterior branch.	Alæ and tip of nose.	Redness of alæ and tip of nose.
Long ciliary nerves. Branch to ciliary ganglion.	Ciliary muscle, iris, and cornea.	Photophobia.

The effects of cauterising the nasal mucous membrane.—The fact that in many instances benefit may be obtained as regards the hay fever attacks and the paroxysms of vaso-motor rhinitis by the application of cocaine during the attacks, or of the galvano-cautery between the attacks, to special areas in the anterior region of the nose, has been recognised for a considerable time, but the manner in which the beneficial effects are brought about not being evident, the treatment has commonly been regarded as empirical. Nevertheless, the fact that this relief is afforded by cauterising the nasal mucous membrane in the region supplied by the nasal nerve appears to me to be corroborative of the suggestion that the terminal filaments of this nerve represent the starting-point of the reflex disturbances and that the partial or total failure of the latter to be induced, in those cases in which the mucous membrane has been cauterised, is referable to the irritability of the terminal filaments having been diminished or abolished.

The effect of bilateral resection of the nasal nerve.—The strongest evidence in favour of the theory, if *ex post facto* proof may here be considered, is supplied by the effects which have been observed to follow bilateral resection of the nerve. In various forms of vaso-motor rhinitis in which this operation has been performed by me, the symptoms have been completely and, up to the present, lastingly abolished. It may be mentioned that in the first case in which the operation was performed the nerve, to begin with, was divided on the right side only. As a result of this procedure the symptoms—intermittent nasal obstruction with profuse hypersecretion—were abolished in the nasal cavity corresponding to that on which the nerve had been divided, whereas the disturbances continued to recur periodically in the opposite nasal cavity, as before the operation. The sensation experienced when these attacks occurred was described by the patient as a "feeling of the nose being divided in half," one side being clear and the other obstructed. The asthmatic attacks from which the patient suffered also continued to recur at intervals. After section of the nerve on the left side the nasal symptoms entirely disappeared and the attacks of asthma ceased.

---

[1] Paroxysmal coryza (variously termed "vasomotor coryza," "vasomotor rhinitis," "paroxysmal sneezing," &c.), is a pathological process which is essentially identical with hay fever, differing only in the nature of the exciting cause and the degree of severity.

[2] Wertheimer and Surmont: Les Voies Centripètes du Réflexe de l'Éternûment, Comptes Rendus de la Société de Biologie, 1888, p. 62.

The considerations which, in the first instance, suggested that resection of the nerve might be performed with a successful result in severe cases of hay fever and paroxysmal coryza in which other methods had failed, were of course those relating to the functions and distribution of the nerve, &c., which I have already detailed. The following notes of the first case, which was operated upon, will serve to indicate the nature of the procedure and the description of case for which I have felt justified in recommending it:—

The patient, a male, aged 45 years, was first seen in 1907. He complained of asthma and intermittent attacks of nasal obstruction, sneezing and nasal discharge; also, in the summer, of severe attacks of hay fever. He had suffered from hay fever for about 15 years and had had asthma for about the same length of time. The hay fever generally began about the last week in May and continued for about six weeks. During this period he suffered great distress and was quite incapacitated for business. He frequently "wished he was dead." The asthma had gradually become more and more troublesome and he now experienced a bad attack every few weeks with frequent minor attacks in the intervals. In consequence of these he rarely enjoyed a proper night's rest and was often prevented from attending to his occupation. The patient had had treatment from a rhinologist for the hay fever and asthma by galvano-cautery, &c., without benefit to either condition; other methods of treatment had also been tried but no measures whatever had apparently been of any real value. There was a history of rheumatic fever in youth and of expectoration of blood. At the time of examination there was some emphysema, together with cardiac dilatation.

Operation.—Resection of the nasal nerve on the right side was first performed, chloroform anæsthesia being employed. The nerve was reached by an incision at the inner edge of the orbit, commencing just above the inner canthus and extending upwards and slightly outwards for about two-thirds of an inch. The cellular tissue having been cleared from the inner upper wall of the orbit by means of a blunt dissector and the nerve located at the anterior ethmoidal foramen, the latter was separated from the artery and divided close to the foramen, about a quarter of an inch of the nerve being removed. Horse-hair sutures were inserted and the wound was dressed with gauze and collodion. The stitches were removed on the fourth day. Resection of the nerve on the left side was carried out four weeks later.[3]

As I had been unable definitely to promise the patient a cure, or indeed any improvement, on account of the dearth of previous observations relating to the effects of resecting the nerve, I was much pleased when, two months after the operation, he called on me with the information that there had been an entire absence of the attacks of paroxysmal coryza and sneezing and a complete cessation of the asthma. He stated also that he had experienced much comfort and benefit from the increased freedom of nasal respiration[4] and owing to the fact that he was able to insure a good night's rest. He had gained over half a stone in weight since the operation and his appearance indicated a manifest improvement in his general health. The minute scars on the skin were barely discernible even on close inspection. On examining the anterior part of the septum with a probe it appeared somewhat less sensitive than normal, but there was no definite anæsthesia either of this region or of the conjunctiva or the skin.

The effects of the operation in this case were such as to encourage me to perform it in other patients suffering from severe conditions of a similar character. Up to the present the results, as already mentioned, have been of a most encouraging nature, not only with regard to hay fever and paxoxysmal coryza but also with regard to the remaining constituent of the triad, which so often afflicts hay fever patients—viz., asthma. The fact that asthma is frequently associated with the foregoing neuroses and is often relieved by similar therapeutic measures suggests that, at least in some instances, there exists a pathogenetic relationship between the conditions, and the existence of this relationship doubtless explains the relief which has been afforded in my cases.

In conclusion, I desire to point out that the present paper merely constitutes a preliminary communication on the subject, as it would be premature, at any rate as yet, to form any final conclusions as to the permanence of the results obtained by this method of treatment or as to the entire absence of unfavourable effects.[5] Nevertheless, in view of the intractable nature of the maladies for which the operation is suggested I have thought it worth while to publish my observations in their present form for the consideration of those who may be interested in the subject.

Manchester.

THE GASTROSCOPE.

BY ALBERT E. MORISON, M.B., C.M. EDIN.,
F.R.C.S. EDIN.,
SURGEON TO THE HARTLEPOOLS HOSPITAL.

GASTRO-DUODENOSCOPY AND DIAPHANOSCOPY.

THROUGH the kindness of Professor Thorkild Rovsing of Copenhagen, who was recently on a visit here, I was enabled to see his gastroscope for electric illumination of the stomach by transillumination and gastroscopy, of which he demonstrated the use on a patient in the Royal Victoria Infirmary, Newcastle-on-Tyne.

All surgeons must have realised the difficulty in making an exact diagnosis of diseases of the stomach, and these may not be cleared up when the stomach is exposed by operation for thorough examination by ordinary inspection and palpation. Doubt frequently exists as to the pathological conditions that are present—e.g., cases occur where the differential diagnosis between carcinoma and simple inflammatory exudation around an ulcer is not easy—or hæmorrhage from a small mucous erosion may be very difficult to trace to its source; or in cases of multiple ulcers one or more may be overlooked. In such cases Rovsing's gastroscope will be of immense service to supplement other known means of diagnosis.

Rovsing made his first observation on Nov. 7th, 1907. The patient, a woman, aged 50 years, had been ill for three years and was on admission frequently vomiting and in a very wretched and emaciated condition. No tumour could be felt, there was no retention 12 hours after a Bourget test meal, and after a Ewald test meal there was brought up 170 cubic centimetres of lumpy, somewhat slimy stomach contents with free hydrochloric acid 31 and a total acidity of 58. By Roentgen illumination after a pint of bismuth porridge the stomach was found to be much depressed, the small curvature being five centimetres and the greater 11 centimetres below the umbilicus. At the operation the diaphragm was found to be depressed, the edge of the liver reached to the umbilicus, and the stomach was as described. The stomach and six centimetres of duodenum were easily drawn outside of the abdomen; the pylorus admitted the forefinger, and no definite infiltration or thickening of the stomach wall was to be felt. Only on the boundary between the cardiac end of the stomach and the small curvature could a suspicious thickening be palpated. It was impossible to say whether this were only due to a normal fold the stomach wall forms here or to an ulcer. Through a small incision one centimetre long made in the anterior wall of the stomach Rovsing inserted a ureter-cystoscope, to the catheter canal of which he fitted a ball bellows, and making the opening in the stomach air-tight by passing a purse-string suture round the cystoscope he inflated the stomach with air until all the folds of the mucous membrane were smoothed out. As soon as the cystoscope lamp was lighted the whole of the stomach was illuminated like a faintly rose-coloured cupola. All the details in the walls of the stomach could be seen, the muscular fibres, the fine network of veins, &c. A slight bleeding point close to the incision appeared as a dark red spot from which a small stream of blood was seen to be oozing down the inner wall. No shadows or thinned portions were seen. The mucous membrane was then systematically examined through the cystoscope from the cardiac orifice to the pylorus but no abnormality was found. The cystoscope was next passed through the pylorus into the duodenum, and the posterior wall of the stomach was illuminated by lifting up the omentum and transverse colon. The gastroscopy opening was closed and gastropexy was performed. All the patient's symptoms disappeared. She can now eat any kind of food, has increased in weight by 22 pounds, and is capable of doing her ordinary work.

---

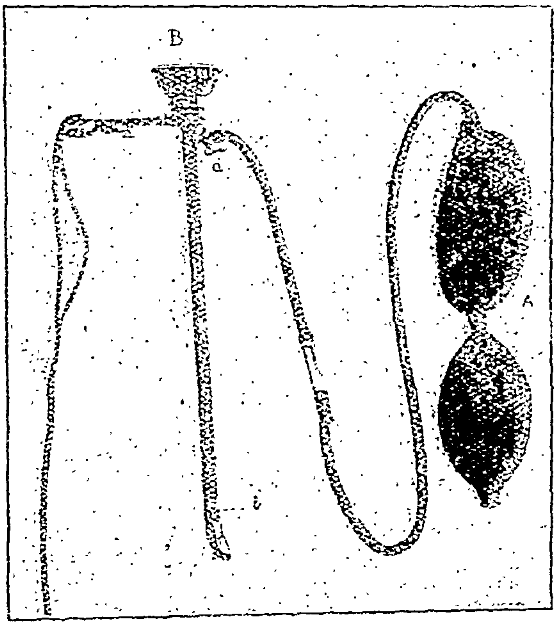
[3] In all subsequent cases I have resected the nerve on both sides at the same operation.

[4] Permanent increased freedom of nasal respiration (apart from the immunity from periodical or seasonal attacks of nasal obstruction) has been noted in several of the cases in which this operation has been done.

[5] In a recent case, in which there was some myopia, this appeared to be slightly increased after the operation.

This case demonstrated clearly that in direct diaphanoscopy and gastro-duodenoscopy a new method of examination had been found which would prove of great value in doubtful cases of stomach and duodenal disease. With the cystoscope which Rovsing first used for this purpose systematic examination of the whole mucosa of the stomach occupied too long a time not only in the interests of the patient but also because it was very fatiguing to the surgeon. He accordingly had made an instrument very much larger than the cystoscope which he calls the gastroscope, and this increases both the strength of the illuminating power and the area of vision which it is possible to see at once. The gastroscope in shape and construction resembles an enlarged Nitze cystoscope, the tube being about four centimetres in circumference, is fitted with a flattened tube along its anterior surface (*a* to *b*, Fig. 1), with a stopcock at *a* connected with a bellows (A). With this instrument even an unskilled observer is able to examine the whole of the gastric mucous membrane systematically in a few minutes. The method of use is as follows: (1) diaphanoscopy, and (2) gastroscopy proper—i.e., the inspection of the mucous membrane of the stomach and duodenum.

FIG. 1.



Gastroscope for diaphanoscopy and gastroscopy. A. Bellows for inflating stomach. B, Gastroscope. *a*, Stopcock. *b*, Opening of inflating tube.

1. *Diaphanoscopy.*—The stomach is drawn out of the abdomen and a *small incision* fitting tightly round the instrument is made into it through which the gastroscope is passed. If the stomach wall does not fit tightly round the gastroscope a purse-string suture round the incision will make it do so. The stomach is then distended with air by the bellows attached to the gastroscope. The lamp is lighted and (especially if the operating room is darkened) the stomach is seen as a brilliantly lighted cupola. All the anatomical details stand out clearly—the pinkish-coloured wall with the vessels plainly defined, the various layers of the muscular fibres, while the crypts become visible as small white spots on the pink ground. Abnormalities are readily detected—e.g., in gastritis the wall of the stomach becomes a deep pink or a bluish red colour, and the blood-vessels are seen as a close network owing to the dilatation of the smaller vessels. Tumours or growths appear as dark diffused shadows on the otherwise clear wall. The deep chronic ulcer with much surrounding inflammatory exudation and thickening shows as a central excavated or cicatrised portion of porcelain-like whiteness and with but few vessels, and this contrasts strongly with the surrounding pink wall. A small superficial ulcer of the mucous membrane is not easy to discover by diaphanoscopy, but it is easily seen by examination by gastroscopy. A bleeding ulcer, however, can be seen either covered by blood clot as a dark spot in the pink wall, or if actually bleeding a dark streak can be observed trickling towards the larger curvature. It is in cases of this description where even at a post-mortem examination the bleeding mucous ulcer is with difficulty localised that the chief use of diaphanoscopy will be found. Rovsing quotes the following as an instance. On Feb. 17th a woman, aged 38 years, was admitted into the Frederiksberg Hospital. For a month previously she had been suffering from slight dyspeptic attacks, but on the day of her admission she fainted suddenly and showed all the symptoms of profound anæmia. Shortly after she vomited a large quantity of dark blood. On examination in hospital the hæmoglobin was found to be 55 per cent., and in spite of most careful dieting the anæmia and faintings increased. There was constant melæna and on the 29th the hæmoglobin had diminished to 28 per cent. and she was very ill. She was then removed to the surgical wards under Mr. Kraft and two hours later he performed laparotomy. On opening the peritoneum the thin, flabby stomach was pulled out. Neither by inspection nor by palpation was it possible to discover any ulcer. Diaphanoscopy with Rovsing's gastroscope showed upon the otherwise clear and transparent anterior wall of the stomach a small dark spot to which a fairly large-sized artery was seen to pass and suddenly stop. Corresponding to this spot, examination of the mucosa through the gastroscope showed a very small superficial ulceration partly covered by blood clot. Examination of the rest of the mucous membrane of the stomach and of the first portion of the duodenum showed nothing abnormal. The gastroscopy incision was now carried up to where the dark spot had been observed and a superficial ulcer of the size of a pin's head was at once found and when touched began to bleed. Four pairs of catch forceps were then placed outside the ulcer to raise it from the surrounding wall, a ligature was tied round it, and bleeding was stopped. The patient's recovery was tedious but uninterrupted.

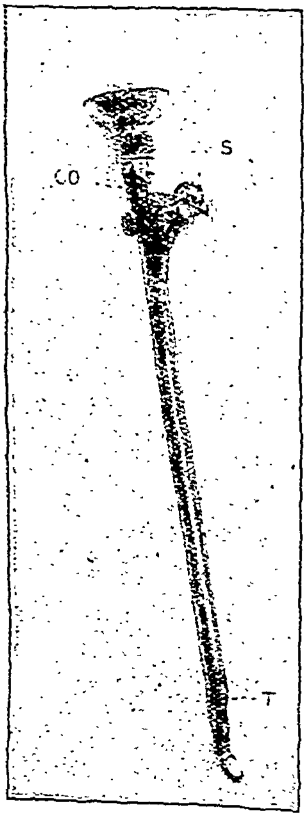
It is in most cases impossible to decide by illumination whether a tumour-like infiltration round an ulcer is inflammatory or cancerous, although a dark shadow indicates tumour and a fainter or lighter shadow inflammatory thickening. To inspect the posterior wall of the stomach efficiently by diaphanoscopy the omentum and transverse colon must be lifted up. When the stomach has been thoroughly examined the gastroscope is carried through the pylorus into the duodenum. If there is any difficulty in passing it through it is a sign that the orifice is contracted. The duodenum can be more effectually illuminated than the stomach on account of its thinner walls and smaller size and an ulcer or tumour is easily discernible.

2. *Gastroscopy.*—Simple illumination of the stomach gives a great deal of information; in many cases it allows of a definite diagnosis—gastritis, ulcer, or tumour; in most cases it is an excellent guide for the subsequent gastroscopy, because one immediately makes for the point where abnormal conditions have been shown by diaphanoscopy, and if there is any doubt as to the nature of the disease direct observation through the gastroscope will, as a rule, clear up the difficulty. The picture obtained through the gastroscope is much sharper, better defined, and more certain than that obtained by the naked eye only, for not only is it considerably enlarged and the illumination exceedingly brilliant but the inflation of the stomach causes all the folds of the mucosa to be smoothed out and more accessible to the eye of the observer. It is therefore possible to make a systematic inspection of the entire stomach and the upper portion of the duodenum in a few minutes.

The normal mucous membrane of the stomach appears by gastroscopy as a smooth rose-coloured surface which at the pyloric and cardiac orifices changes into folds of mucous membrane converging as radii towards the circular opening. Any abnormality of these two openings shows itself in a very characteristic manner: if the pylorus is ring-shaped, infiltrated, and contracted a stiff gaping ring through which a glimpse into the duodenum is obtained is observable; should half of the pyloric ring be infiltrated it assumes the shape of a half moon, the soft mucous membrane of the healthy portion curving into the stiff half of the ring. Any ulcers at the pylorus itself are easily discernible but the folds of the mucous membrane round the pylorus require a closer observation. In the one case where Rovsing had an opportunity of examining an abnormal cardiac orifice the gastroscope gave an exceedingly fine and clear picture of the tap-shaped ulcer projecting into the stomach and the adjoining portion of the mucosa ulcerated.

In cases of ulcer and carcinoma where the diagnosis is clear gastroscopy is of importance because it shows accurately the limits of the disease. It is also useful in clearing up conditions which diaphanoscopy could not—e g., in several of Rovsing's cases what after other examination was thought to be a simple ulcer, by gastroscopy showed knotty tumour formation in the mucous membrane, and no doubt was then entertained as to the malignant nature of the infiltration. But very important also is the fact that gastroscopy is able to show the presence of mucous ulcers which are not discernible by any other method.

FIG. 2.



Gastroscope for introduction of œsophageal bougie or catheter through the cardiac orifice of the stomach. S, Screw. T, Tongue. C. O., Catheter opening.

The instrument shown in Fig. 2 is oval in contour and in addition to the air-inflating tube contains a tube for the insertion of an œsophageal catheter or bougie. It is fitted like the Albarran ureter-cystoscope with a tongue which by means of a screw can be raised or lowered to direct the bougie or catheter into the cardiac orifice. By means of this instrument a retrograde insertion of a bougie can be made with the greatest ease and under ocular control for the dilatation of œsophageal strictures which are impermeable from above. Being oval, this *œsophagus* gastroscope requires a purse-string suture round it so that the edges of the stomach incision are air-tight.

Rovsing relates 26 cases in which he has been able to examine the stomach by diaphanoscopy and gastroscopy and afterwards proceed with the operation he then found to be necessary. The use of "cold" lamps in the gastroscope excludes any risk of burning the mucous membrane and a careful inflation of the stomach appears to be harmless. The risk of infection of the wound is overcome by sterilising the whole instrument—gastroscope, wires, tube, bellows—for 36 hours in a formalin steriliser.

Having had an opportunity of seeing the instrument in use it appears to me that Rovsing has placed in the hands of surgeons an instrument of the greatest diagnostic utility and for this reason I am sending these notes to THE LANCET.

Sunderland.

A CASE IN WHICH OCCLUSION OF THE ABDOMINAL AORTA TOOK PLACE.

BY C. H. CATTLE, M.D LOND., F.R C.P. LOND.,
PHYSICIAN TO THE NOTTINGHAM GENERAL HOSPITAL.

COMPLETE occlusion of the abdominal aorta, whether caused by embolus or thrombus, is an event of sufficiently rare occurrence to make the following case worthy of record.

The patient was a man, aged 39 years, who was admitted to the Nottingham General Hospital on May 6th, 1907, complaining of palpitation, shortness of breath, and pain in the region of the heart. These symptoms had been present for 11 weeks. There was no history of rheumatic fever. The patient had had influenza three years ago. His work was very heavy, in an iron-foundry. He was a moderate beer-drinker, and he smoked four ounces of tobacco a week. When he came to the hospital he was of fairly healthy appearance, without obvious cyanosis; the mucous membranes were of good colour, the tongue was clean, and the pulse was 80 and irregular in force and rhythm. The heart's apex was in the fifth interspace, half an inch beyond the nipple line; the impulse was slapping in character. To the right the cardiac dulness corresponded with the right border of the sternum. There was a well-marked presystolic murmur, limited to the region of the heart's impulse, followed by a short first sound. The pulmonary second sound was accentuated. Nothing abnormal was heard in the lungs. The liver and kidneys were normal. There was no œdema of the legs or of other parts.

The patient was kept in bed and he continued to be at absolute rest during the whole of his stay in hospital. A mixture was given containing digitalis and strychnine but the pulse still remained very irregular. The patient complained of some cardiac pain for which a belladonna plaster was applied. His condition was fairly satisfactory until June 17th, when he complained of pain and tenderness in the right iliac region. The temperature rose to 101° F. No swelling could be felt at the seat of pain and in about three days the symptoms had all subsided. On the 23rd the patient complained of pain in the lumbar spine, which during the following night became so intense as to require a hypodermic injection of morphine Soon after the onset of the pain the patient found that he could not move either leg. When seen on the 24th both lower limbs were found to be completely paralysed in their whole extent. There were absolute anæsthesia and analgesia in front from the lower third of the thighs downwards and behind below the fold of the nates. The knee-jerks were absent. The cremasteric reflex was present. There were scattered patches of dusky mottling on the inner aspect of the thighs, the rest of the limbs being strikingly pale and cold. There was complete absence of pulsation in the femorals, the posterior tibials, and the dorsalis pedis. A trace of albumin was found in the urine. The bladder acted normally. On the 25th the mottled lividity of the skin had increased and the anæsthetic area had extended. The urine was dark-red, *containing a* large quantity of blood, showing interference with the renal circulation. On the 26th there were constant hiccough and profuse sweating, death occurring at about 6 P.M. No post-mortem examination was obtained.

The diagnosis of so little-expected an accident as occlusion of the abdominal aorta rested on the absence of pulsation in the arteries of the lower limbs and on their condition of coldness and anæmia with patches of livid mottling. Unfortunately, there was no post-mortem examination but I think there can be no doubt that the diagnosis was correct. Occlusion of the abdominal aorta is fortunately an event which very rarely happens. The author of the article on the condition in Allbutt's "System of Medicine"[1] was able to collect reports of 59 cases, all of which excepting three were fatal. Considerable doubt is permissible as to whether the arrest of the circulation is caused by embolism or by thrombosis. Valvular disease of the heart, especially mitral stenosis, is a fruitful source of embolism, hence it is natural to suppose that embolism of the aorta should occur in the same circumstances as embolism of smaller arteries. The large size of the aorta raises the doubt whether any embolus could be sufficiently large to completely plug it. But an embolus frequently grows in size by the formation of thrombus around it and therefore an embolus arrested at the bifurcation of the aorta might be enlarged in this manner until it filled the lumen of the vessel and extended into both iliacs. The attack of pain in the right iliac region which this patient experienced a few days before the final attack may have been due to a similar cause, whether embolism or thrombosis. The occlusion in this instance cannot have been complete as the symptoms associated with it abated, yet it seems not improbable that an embolus was carried into the right internal iliac, still allowing the circulation to be carried on for a time, and that by gradually extending upwards it eventually caused the obstruction of the aorta. In 34 per cent. of the cases collected by Welch[2] mitral stenosis was present. Mitral stenosis not only provides a possible source of embolus but also often leads to very low arterial blood pressure, which itself is a cause of spontaneous clotting in the vessels. In my patient compensation had quite broken down and it was found impossible by means of rest and cardiac tonics to restore regularity to the pulse or tone to the heart. Hence the circulation was inefficiently maintained, the propulsive force being weak and intermittent. Under these conditions thrombi might very readily be formed in the left cavities of the heart and be the source of an embolus, or it may be that owing to comparative stasis of the circulation primary thrombosis of the aorta or internal iliac occurred. Sometimes the thrombosis is due to extensive atheroma, as in the case reported by the late Mr. W. H. Brown of Leeds.[3]

Whatever the exact pathology of the case the occlusion was evidently complete. The clot probably reached as high as the renal arteries, and this grave interference with the circulation, together with the co-existent cardiac disease, was sufficient to bring about a very rapid termination. But death does not always occur so quickly as in this case. It may be deferred days, weeks, or even months, and be due to gangrene, sepsis, or general exhaustion.

The paraplegia which attends occlusion of the abdominal aorta is doubtless due to the shutting off of the blood-supply. But whether it depends on anæmia of the spinal cord or of the peripheral nerves and muscles is not decided. It is important, therefore, that careful examination of the cord should be made whenever possible.

Nottingham.

THE TREATMENT OF GANGRENE IN STRANGULATED HERNIÆ AT ST. THOMAS'S HOSPITAL, 1901-1905.

BY EDRED M. CORNER, M C CANTAB., F R.C.S. ENG.,
SURGEON IN CHARGE OF OUT-PATIENTS AT ST. THOMAS'S HOSPITAL.

IN the St. Thomas's Hospital Reports of 1900 I published a paper[4] in which was set forth the condition of the bowel found in the strangulated herniæ admitted to the hospital during the ten years 1891-1900. In the present note I wish to direct attention to but one part of the subject of this original communication—the treatment of necrosis of the bowel in strangulated herniæ Since 1900 there have been far more instances of necrosis of the bowel recognised in these cases, giving therefore a better estimate of the present-day treatment than was the case in my original communication. The occurrence of an infective necrosis of the bowel[5] has now been recognised and has led to the more frequent recognition and treatment of the damaged bowel found in strangulated herniæ. In the five years from 1901-1905 necrosis of the bowel has been recognised and treated 30 times, as compared with 42 in the ten preceding years.

Resection and immediate anastomosis.—The balance of the treatment adopted has been in favour of resection and anastomosis of the bowel whenever possible. 18 of such cases have been done with eight recoveries, a recovery rate of 45 per cent. and a mortality of 55 per cent. Thus a great advance has been made on the condition of affairs at the time of the publication of my paper in 1900, when the mortality for the resection of the bowel and anastomosis in gangrenous strangulated herniæ was 80 per cent. It is on account of this very great improvement that I decided to publish this note now, after five years, rather than await the lapse of a decade. There are several reasons which have contributed to this improvement. Firstly, instances of early gangrene or necrosis have been recognised and treated. Secondly, cases where the bowel was only "doubtful" may have been excised, though this must have been infrequent. Thirdly, there are the improvements of modern technique, such as the removal of the bowel widely above the obstruction. A further point of interest is that those cases where the resection of the bowel has been followed by an end-to-end anastomosis, circular enterorrhaphy, have done better than when a lateral anastomosis has been employed.

Resection and enterostomy.—In the same period, 1901-1905, there have been ten cases in which the resection was followed by the making of an artificial anus, an enterostomy, from which there has been only one recovery; recovery rate 10 per cent., mortality 90 per cent.—a result which agrees very closely with the previous finding in 1900, when the mortality was 88·9 per cent. There is certainly one great contributory factor in producing this more or less stationary condition of affairs, which is that the treatment by resection and enterostomy has been reserved only for the very worst cases. Yet in spite of modern advances there has been no improvement in the results. During the same period there has been a diminution by 35 per cent. in the mortality of those cases treated by resection and anastomosis of the bowel. There can be no doubt along which line of treatment modern surgery will progress—resection and anastomosis.

From a surgical and philosophic point of view this is very remarkable, because there is hardly any point upon which abdominal surgeons are so unanimous as that it is far safer to do an anastomosis on healthy bowel than on bowel distended with septic fluid such as it is in intestinal obstruction, an enterostomy at the time and a subsequent anastomosis yielding far better results. Yet in the case of strangulated herniæ the trend of modern opinion is in the opposite direction. There should be a reason for this and I would urge that there probably is a difference in the septicity of the bowel and its contents in cases of intestinal obstruction which have been acute from the beginning, as in the strangulation of a hernia, and when the acute obstruction has merely been imposed on a chronic, as when due to carcinoma of the sigmoid. In the former case the septicity is localised to the vicinity of the obstruction, so that if the resection is done freely more or less healthy tissues will be sutured and success will be attained. And in the latter case the septicity extends further afield and all plastic operations, like anastomoses, are done in a septic area and end in disaster. Then the surgeon, in order to make a successful anastomosis, must either resect so extremely widely that the magnitude of the operation will probably kill a patient, who is already ill, in order to get away from septic bowel and contents, or he must do an enterostomy and having waited for the bowel to have become cleansed and all "endo-enteritis" to have subsided, perform his anastomosis on healthy tissues. This may be the explanation for the very different clinical results obtained by anastomoses made in varieties of intestinal obstruction.

Invagination.—Besides resection with anastomosis or enterostomy two cases have been treated by the invagination of the gangrenous or doubtful area. Both patients recovered and the cases were most successful. The method is obviously applicable only to small areas of necrotic bowel, and in practice will be mainly useful for secluding "doubtful" bowel. But these two cases show that its judicious application has a useful, if not a large, field in the treatment of necrosis of the bowel in hernia. It may be suggested that it is useful at times at the place where the bowel has been "nipped" and also for the patchy gangrene sometimes found at the apex of the strangulated loop. But the dependence of the necrosis on the action of organisms places a bar upon the extended employment of this method which is likely to be more useful as a safeguard for "doubtful" bowel rather than when gangrene or necrosis has already declared itself.

---

[1] Vol. vi., p 273.

[2] Loc. cit.

[3] Transactions of the Clinical Society of London, 1893.

[4] Gangrene in Strangulated Herniæ, &c., St. Thomas's Hospital Reports, 1900.

[5] Clinical Pathological Observations on Acute Abdominal Disease. Constable and Co. 1905.

Mortality.—In 1900 the mortality for the herniæ in the different regions was given. Of umbilical herniæ it was said: "For complicated strangulated herniæ they have the highest mortality of all. A quarter of the cases contain gangrenous bowel." These statements are borne out by the cases in the subsequent hemidecade: of ten cases, only two patients recovered; mortality, 80 per cent. Of strangulated femoral herniæ it was said "a fifth contain gangrenous bowel." Out of 12 cases, four patients recovered; mortality, 65 per cent. Of inguinal herniæ it was said, "generally speaking, they are of much better prognosis than any of the other varieties." A twentieth of the cases admitted contained gangrenous bowel. Of eight cases, five patients recovered; mortality, 37 per cent. Hence it may be said that the cases of 1901–1905 bear out in the more modern treatment all that was said of the different varieties of hernia in 1900.

St. Thomas's Hospital Cases, 1901–1905.

	Mortality.
Complicated strangulated inguinal herniæ	37 per cent.
" " femoral "	66 "
" " umbilical and ventral herniæ	80 "

Of 216 strangulated inguinal herniæ gangrene was recognised in 8	3·6 per cent.
Of 133 strangulated femoral herniæ gangrene was recognised in 12...	9·0 "
Of 46 strangulated umbilical and ventral herniæ gangrene was found in 10	21·7 "

The figures support the contentions made in the previous paper in general, though not entirely in detail. The former percentages for 1891–1900 were 6·1, 19·5, and 25·4 respectively.

Harley-street, W.

A CASE OF DISSECTING ANEURYSM OF THE PULMONARY ARTERY; PATENT DUCTUS ARTERIOSUS; RUPTURE INTO THE PERICARDIUM.

By LESLIE DURNO, M.D. ABERD.;

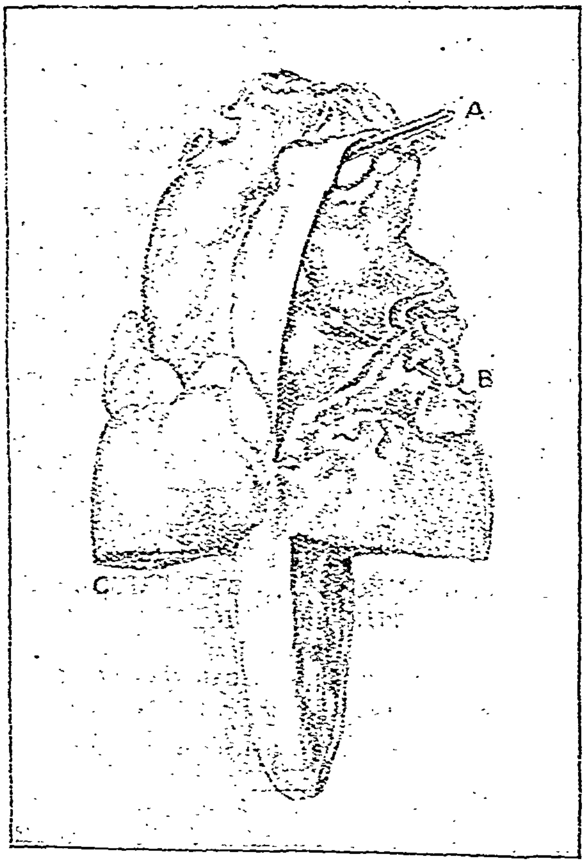
AND

W. LANGDON BROWN, M.D. CANTAB., F.R.C.P. LOND.,
PHYSICIAN TO THE METROPOLITAN HOSPITAL; MEDICAL REGISTRAR
AND DEMONSTRATOR OF MORBID ANATOMY AND PHYSIOLOGY,
ST. BARTHOLOMEW'S HOSPITAL.

ANEURYSMS of the pulmonary artery are common enough within the lung as the result of cavity formation in phthisis. But aneurysms of the artery before the lung is reached are very rare. According to Crisp[1] two cases of aneurysm of the main branches were reported in England between 1785 and 1847. He says: "I know of no case of aneurysm of that artery before its division." Dlauhy[2] described a case in 1848. Gilewski[3] found a saccular dilatation of the main trunk as large as a pomegranate. Dowse[4] met with a case of ruptured aneurysm in a girl, aged 19 years; the sac was filled with clot and as there were vegetations on the pulmonary valves it is probable that this was mycotic in origin. Skoda's work on "Auscultation and Percussion" contains an account of an aneurysm of the trunk of the pulmonary artery as large as a goose's egg. Duffield's[5] case of pulmonary regurgitation with aneurysm of the right and left pulmonary arteries resembled ours in the fact that the aneurysm was dissecting in character and had ruptured into the pericardium. It differed in the important particulars of being associated with a lesion of the valve and of beginning in the right branch. Sansom's article in the "Twentieth Century Practice of Medicine"[6] quotes also a case of Crudeli's where there was a general dilatation of the pulmonary artery with small saccular aneurysms above the semilunar valves, one of Sir Dyce Duckworth's associated with congenital malformation of the pulmonary valves, and one of Bruen's associated with congenital malformation of the heart. These are all the instances that we have come across in the literature of the subject.

The patient was a groom, aged 33 years, who appeared to have good health generally. But latterly he had complained that on running a horse he would get out of breath much sooner than usual and had a stuffy feeling in the chest. On severe exertion he would get dusky in colour. Beyond these complaints he was quite able to do his work; he was the father of four children, all healthy. About a fortnight before he died he was attacked with severe pain in his chest and vomited. The medical man who attended him put this condition down to gastritis and treated him accordingly for a fortnight, when the patient declared himself able to resume work. This he did for one day. In the night following that day his wife was awakened out of her sleep by his making noises as if struggling for breath. On trying to give him something to drink she found that he was dead. One of us saw him soon afterwards—about 5.30 A.M.—and found him lying in bed in quite a natural position. The medical man who attended him previously to his death could throw no further light on the subject.

We made a post-mortem examination on the same afternoon. On opening the chest the pericardial sac was found to be distended with about a pint of dark clotted blood. A small hole was found in the pulmonary artery about one and a half inches from its origin, close to the left auricular appendix. The right ventricle was much hypertrophied, the maximum thickness of its outer wall being seven-eighths of an inch (after hardening in formalin), while the maximum



The dilated pulmonary artery is laid open, showing the patches of atheroma. The rod A is passed through the patent ductus arteriosus, close to which a small saccular aneurysm is seen. Under the arrow a tear in the wall of the artery can be seen, starting from the right branch of the pulmonary artery and rupturing into the pericardium close to the head of the arrow at B. The ventricular walls have been cut away so as to expose the great thickness of the right side, which can be seen at C.

---

[1] Diseases of the Blood Vessels, 1847, p. 91.

[2] Quoted by Dowse, vide infra.

[3] Wiener Medicinische Wochenschrift, Nos. 32–33, 1868.

[4] THE LANCET, Nov. 7th, 1874, p. 660.

[5] American Journal of Medical Science, Philadelphia, 1882, N.S., vol. lxxxiii., pp. 77–82.

[6] Twentieth Century Practice of Medicine, vol. iv., pp. 527–533.

thickness of the left side was half an inch. The ductus arteriosus was widely patent, its walls being atheromatous. The pulmonary artery and its two main branches were dilated uniformly, the walls showing large plaques of atheroma. Just before the ductus arteriosus was reached there was a little saccular aneurysm about as large as a filbert. At the bifurcation of the pulmonary artery into its two divisions the intima and media were torn right through. A dissecting aneurysm had formed which contained a small amount of blood clot. This aneurysm had burst into the pericardium. All the other viscera were greatly congested, but no other lesion could be found, except that perhaps the capsules of the kidneys were slightly adherent.

Remarks.—The sequence of events would seem to have been as follows:—

1. The patency of the ductus arteriosus made it necessary if the pulmonary circulation was to be duly maintained for the pressure in the right side of the heart to rise till it was equal to that of the left. Therefore the right ventricle was compelled to hypertrophy. Normally the pressure in the aorta is about 150 millimetres of mercury, while that of the pulmonary artery is only 60 millimetres; consequently the resultant hypertrophy was very considerable.

2. The artery became atheromatous. Whether high pressure is a cause of atheroma is a disputed point. The experimental production of atheroma by injections of adrenalin has been held to prove this, but it seems doubtful whether sufficient control examinations have been made of the condition of the arteries in animals in which no such injections have been made.[7] The occurrence of atheroma in a man aged 33 years in the pulmonary artery is, in the circumstances, very suggestive of high pressure causing the atheroma. In this case the vessel must have been exposed to a pressure more than double the normal. It is not uncommon for a patent ductus arteriosus to become atheromatous. Darwin's law of the liability of vestigial structures to disease is here again exemplified.

3. The atheroma and high pressure combined produced a dissecting aneurysm which, as usual, took the form of a sharp transverse tear near the origin of the vessel. This was probably the cause of the pain which attacked him a fortnight before his death. It is not uncommon for a dissecting aneurysm to be accompanied by vomiting.

4. The blood extravasated between the coats ultimately burst into the pericardium, this accident being in all probability accelerated by his return to work. Extravasation of blood into the pericardium is a well-known cause of sudden death, for the heart, while very tolerant of interference with its systolic output, is extremely intolerant of any interference with its diastolic filling.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

◆

A CASE OF PNEUMOCOCCAL MENINGITIS.

By ALEXANDER J. KENDREW, L.R.C.P. LOND., M.R.C.S. ENG.,

SENIOR HOUSE PHYSICIAN, METROPOLITAN HOSPITAL, KINGSLAND ROAD, N.E.

THE patient in the case now described was a male child, aged seven months, and was admitted to the Metropolitan Hospital under the care of Dr. W. Langdon Brown at 6 P.M. on May 9th, 1908. The mother brought him because she had noticed that "since May 3rd the child had seemed a little off colour and that on the 9th the child appeared to have pain in the back whenever he was lifted up." The mother had had an easy labour at the birth of the child who was carried to full term and was breast fed. He suffered from bronchitis at the age of six weeks and from chicken-pox at the age of five months, but never had any discharge from the ears. The family history had no bearing on the illness. On arrival at the hospital the child was found to be well-nourished and was not crying. The fontanelle was widely open, very tense, and bulging. The child was not blind; the pupils were equal and reacted to light. There was an external squint of the left eye. The ears appeared to be natural and there was no discharge from them. The chest was natural; the abdomen was also natural, being neither distended nor retracted. The abdominal reflexes were obtained on both sides. The legs were very rigid; the knees could only be flexed with difficulty and the thighs could scarcely be flexed at all. Kernig's sign was therefore not obtainable, since the thighs could not be flexed even when the knees were already flexed. The plantar reflexes were extensor on both sides. Lumbar puncture was performed on admission, one test-tube full of clear fluid being withdrawn. Chemical examination showed that this fluid contained reducing sugar and much albumin. On microscopical examination 330 leucocytes per cubic millimetre were found, the majority being polymorphonuclear. Cultivation on serum agar gave in 18 hours a growth of a Gram-positive diplococcus. On the next day the child had fits which continued until his death at 2.30 on May 11th. His temperature at the time of death was 105·6° F. A second lumbar puncture was made just before death; the fluid then withdrawn was turbid and yielded a pure culture of the pneumococcus.

At the necropsy the body was seen to be well developed. In the skull a little pus was present on the internal surface of the dura mater in several places at the vertex and at one spot opposite the pole of the left temporo-sphenoidal lobe. At this spot the dura mater was roughened but on peeling it off the bone appeared to be quite healthy, as indeed it appeared to be everywhere. Both of the internal ears contained a little viscid mucus but no pus. In the brain a thick layer of greenish-yellow pus could be seen under the arachnoid covering the whole of both frontal lobes and extending backwards on to both parietal regions. Behind the fissures of Rolando the pus lessened in amount and was only present in small scattered patches on the parieto-occipital regions. Both temporo-sphenoidal poles were covered with pus, which also filled the Sylvian fissures. At the base the pus was situated in and around the interpeduncular space and optic chiasma. The arachnoid covering the pons was only slightly opaque while that over the medulla oblongata was unaffected. The blood-vessels behind the pus-covered area were considerably congested. The convolutions on the surface were much flattened but the brain was not cut into as it was preserved entire. The spinal cord appeared to be natural; a little pus was present outside the dura mater in the dorsal and lumbar regions but there was none within the membranes. All the other organs in the body appeared to be natural.

In a paper published in THE LANCET of Oct. 8th, 1904, p. 1017, by Dr. A. T. Davies and Dr. Langdon Brown, I see that it is said: "Probably not pneumonia only but all pneumococcal infections tend to be septicæmic. Thus at St. Bartholomew's Hospital during the last ten years 17 cases of meningitis without discoverable lesion elsewhere were proved to be pneumococcal. In three instances cultures of the spleen yielded a pure growth of pneumococci." In the present case it seems to me that this child must have had a septicæmia. It is unthinkable that the meninges could be the only, or even the primary, seat of infection.

I am much indebted to Dr. Langdon Brown for permission to publish these notes, and also to Mr. Ernest H. Shaw, pathologist to the hospital, for help in the bacteriological and post-mortem work.

Metropolitan Hospital.

NOTE ON A CASE IN WHICH THE WIDAL REACTION PERSISTED SEVEN YEARS AFTER AN ATTACK OF TYPHOID FEVER;

ASSOCIATED WITH SUPPURATIVE CHOLANGITIS, TYPHOID BACILLI BEING FOUND IN THE BILE PASSAGES.

By DONALD E. CORE, M.B., CH.B. VICT.,

HOUSE PHYSICIAN AT THE DERBYSHIRE ROYAL INFIRMARY, DERBY.

THE patient came into the Derbyshire Royal Infirmary suffering from jaundice and periodical attacks of shivering. She had been ill for five weeks and the trouble began with a paroxysm of intense pain, which was diagnosed at the time as gall-stone colic. Since that time she had wasted steadily and lost strength. There was no history of diarrhœa. She had had typhoid fever seven years before.

On admission the patient, who was a stout, somewhat flabby woman, had a temperature of 101·4° F. and a pulse-rate of 132. The respirations were 32. She was very listless, lay flat on her back, and was distinctly jaundiced. The tongue was dirty and very dry, and the abdomen, though not tender on palpation, was distended. The liver was enlarged, the lower edge being depressed fully three fingers' breadth below the costal margin. No irregularities could be made out on its surface. The spleen could not be felt when she was admitted but it became palpable on the fifth day. There were no rose spots. The heart was dilated and no apex impulse was visible or palpable. The area of cardiac dulness extended fully an inch to the left of the left nipple line. To the right, dulness extended half an inch to the right of the sternum; above it reached to the top of the third rib. A marked canter rhythm was heard all over the cardiac area, the first sound being accentuated and the second reduplicated. This rhythm was most evident at the apex. Ten days after admission the reduplication of the second sound disappeared, its place being taken by a soft systolic murmur conducted outwards into the axilla. The breath sounds were normal in character and there was no evidence of consolidation anywhere. Moist sounds were audible over the bases.

---

[7] Miles: Journal of the American Medical Association, Oct. 5th, 1907.

On the day after admission the temperature rose to 102·8°, and for the next five days it varied between 99° and 100°, the daily excursions being remarkably uniform. On the sixth day it rose to 101·8° and fell gradually to the normal during the next two days. On the eleventh day it was 101·2°, falling to 99° on the next morning; on the evening of this day it rose to 102° and fell to 98° on the day following. On the day on which death occurred it rose to 103°, dropping immediately to 95·6°. The cardiac dilatation rapidly subsided with the rest in bed and the pulse became more regular. During the first eight days it varied between 132 and 116; then it became steadier and ranged between 80 and 60. The patient, however, did not show any improvement in her general condition, but became more and more asthenic. Throughout the whole of the time that she was under observation in the hospital this was a very marked feature of her condition; she did not show the improvement in her general state that might have been expected from the physical signs. Constipation was obstinate all the time that the patient was in the hospital, the stools being clay-coloured. The urine contained neither albumin nor bile. During the last two days of life persistent and intractable vomiting set in, the patient not being able to keep even albumin water in her stomach. From the day of her admission there had been mild delirium at night and this became intensified during her last few days. Death occurred on the fourteenth day after her admission.

On opening the abdomen post mortem the first object that attracted attention was the liver, which was enlarged and studded with brownish-yellow nodules that fluctuated on pressure. On closer examination the great omentum was found to be adherent to the gall-bladder and could only be detached by tearing this latter structure. On section a thick creamy substance of a bright orange-yellow colour oozed from the bile-ducts, which were thickened and distended. This was universal over the whole organ. The contents of the gall-bladder were normal in colour and the ducts did not show any stenosis; the gall-bladder contained a gall-stone. The liver weighed five pounds. There were no typhoid lesions found in the intestines; the spleen was somewhat enlarged. The other organs were normal, there being no signs of endocarditis. The pus, taken from the intrahepatic bile-passages, showed both culturally and on films the presence of the bacillus typhosus in large numbers.

I have ventured to record this case as possessing some interest not only on account of the patient's probable rôle of a typhoid carrier, but also because it also shows that the Widal serum reaction may persist as long as seven years after the attack of typhoid fever. Professor Hewlett, in his "Text-book on Pathology," states that "the reaction of agglutination once acquired, may persist for years—certainly three or four." In this case there was a most clear and convincing account of typhoid fever seven years before the patient was admitted into the hospital, and the reaction was accountable for a not unnatural difficulty in the diagnosis. The patient was admitted as a case of typhoid fever, and yet there were not many symptoms, apart from the serum reaction, which pointed to this disease. The enlarged liver and jaundiced aspect at first gave rise to the idea that she was suffering from cholangitis, with the possibility of ulcerative endocarditis; when, however, the result of the serum reaction became known we considered it to be, and treated it as, a case of typhoid fever. Nevertheless, we realised that there were many atypical symptoms, and we were not altogether satisfied with this diagnosis. Had we known that it was possible for the serum reaction to persist for seven years after the attack which gave rise to it, I do not think that we should have held to this diagnosis at all.

The second point of interest shown by the case is one which has had a great deal of attention directed to it lately—namely, the danger to a community from having such a patient as this in its midst. This woman must have been discharging typhoid bacilli more or less continuously for seven years, and recent evidence has conclusively proved that her case was in no way unique. The early recognition of such cases appears to be imperative in any crusade against typhoid fever, and it would be instructive to know what connexion, if any, a persistent Widal reaction has with persistence of typhoid bacilli in the organism.

I am indebted to Dr. M. Parry-Jones for giving me permission to publish this case.

Derbyshire Royal Infirmary.

Reviews and Notices of Books.

Comparative Anatomy of Vertebrates. Adapted from the German of Dr. R. WIEDERSHEIM by Dr. W. N. PARKER. Third edition. London: Macmillan and Co. 1907. Pp. 576. Price 16*s.* net.

THE last English edition of this book appeared in 1897 and was based on Professor Wiedersheim's "Grundriss der Vergleichende Anatomie der Wirbelthiere." There has been an interval of ten years, therefore, between the publication of that edition and the appearance of the present volume which is adapted from the "Grundriss" of 1906 and, as may be supposed, the growth of our knowledge of comparative anatomy during those ten years has made it necessary, even with the most careful condensation, to increase the size of the work by nearly 100 pages.

The introductory chapter gives a definition of the various minor branches which make up the complete science of comparative anatomy. We are glad, by the way, to see the old-fashioned name retained because, though many modern animal morphologists are inclined to look down upon it, comparative anatomy has a very real meaning apart from old associations and has never been adequately replaced by any other name. A brief outline of the chief details of embryology succeeds, followed by a general review of the chief organs and systems of the vertebrata. This is illustrated by a diagrammatic scheme of a sagittal section of a generalised vertebrate, which is new and would be more valuable if the duodenal loop were directed ventrally instead of dorsally and the spleen placed in the dorsal instead of the ventral mesentery. Moreover, the pancreas might have shown one or more ducts in the same way that the bile-duct is shown. The classificatory and palæontological tables remain as in former editions and are most valuable for reference.

The chapter on the integument has several new and useful process illustrations, but it is doubtful whether it would not have been more convenient to treat it and the exoskeleton together; at any rate, we cannot agree with the author when, on p. 43, he includes the abdominal ribs of Hatteria (now usually known as Sphenodon) and of the crocodile among exoskeletal structures. Again, on the next page he says in a footnote that the mammalian sternum may include some vestiges of the exoskeletal episternum. If he does this he should surely be consistent and give mammals credit here for having exoskeletal vestiges in the roof of the cranium and bones of the face, as well as in the sternum. We should like to know why the author casts a doubt on the perfect homology of the intercentra of mammals with those of other vertebrates. Boulenger has shown how common they are in lizards, while similar traces can be found in many mammals. Unless the author denies the serial homology of these structures with the ventral arch of the atlas he is practically throwing out a suggestion that the ventral arch of the atlas in mammals is not homologous with that of reptiles and birds, yet he says on p. 62 that the atlas and axis of mammals essentially resemble those of birds.

In the skull some excellent new illustrations are added and the chapter forms a good and clear introduction to the study of this difficult subject. The limb bones, too, are fairly dealt with except that we look in vain for some discussion on the very important question of the nature and uses of epiphyses; indeed, in the index, epiphyses of long bones are not even mentioned. On p. 172 it is stated that the patella is in no way comparable to the oleolecranon (*sic*) of the ulna as was formerly supposed. This appears to us a drastic statement and one on which we should be grateful for some reasoning. It certainly is opposed to some modern research which has not been noticed.

The nervous system has been well overhauled and the enormous literature on the pineal region and nerve components has been done as much justice to as space would permit. We notice, however, that one page is still all that is allotted to the spinal cord and that few additions to the description of this region have been made with the exception of a footnote on Reissner's fibre. The vascular and genital apparatus are done ample justice to, but so far as their embryology is concerned cannot be said to be well up to date. The omissions, however, are seldom of first-rate importance.

The appendix on the literature of the subject is a most valuable part of this book and is as exhaustive as can fairly be expected when the size of the work is considered. There are, it is true, several modern papers which might with advantage have been added even at the expense of leaving out some of the older ones, because these are always referred to in the newer. We think that it would aid reference if the names of the subjects with which the papers deal—e.g., skull, nervous system, and so on—were printed on the top of each page, and perhaps this suggestion may be adopted in subsequent editions.

We have no hesitation in commending this book to teachers and to students alike. It is well written, well got up, and abundantly illustrated. The immense mass of facts is digested and arranged with a master's skill, and, if the work tends to err on the side of too dogmatic statements, it is a fault which the student will be thankful for and the research worker will view with a very lenient eye, for, in the present stage of morphology, to day's nay is often to-morrow's yea.

The Cradle of the Deep, an Account of a Voyage to the West Indies. By Sir FREDERICK TREVES, Bart., G.C.V.O., C.B., LL.D., Serjeant-Surgeon to H.M. the King. With numerous illustrations and one coloured plate. London: Smith, Elder, and Co. 1908. Pp. 374. Price 12*s.* net.

IN certain of the natural gardens of the West Indian archipelago there is to be found a tree of such extreme beauty as to attract the traveller's notice amongst a confusion of splendid rivals. Its leaves are of an exquisite green and graceful shape and it is thickly hung with bright scarlet globes which when they have ripened afford a wholesome food of delicate flavour. This is the akké fruit which has one peculiarity, that beneath its outward beauty, before the ripening process is complete, there lurks a sufficient amount of prussic acid to kill the man who unwarily partakes of it. The akké tree stands as a fitting type of the lands that give it nourishment, lands of a transcendent fairness which has captivated the imagination of travellers since first they broke upon European eyes, and which has yet formed the background for manifestations of cataclysmal cruelty of nature and of murder, rapine, and lust of man, such as perhaps the history of no other region in the world can equal.

The latest addition to the many books of travel which seek to set forth the wonder and the tragedy of the West Indies is from the pen of Sir Frederick Treves. Many of our readers will remember his record of impressions gathered in Eastern lands, and to those who have enjoyed them we may say at once that Sir Frederick Treves has greatly surpassed that achievement in the present admirable volume. Although his chapters are strung upon the itinerary of a prosaic "circular tour" of the Antilles and the Spanish Main, there is nothing whatever in them to suggest the globe-trotter's diary, but there is very much that bears witness to an eye of singular acuteness, backed by a living imagination and a ready wit; and there is no better proof of this than the poor impression which his photographic illustrations give by comparison with his text, although many of them are technically excellent. The book itself has a vividness that almost suggests a kinematographic record of faithfully coloured pictures, and as in such displays we are generally whirled from one set of events to another with startling suddenness, so does this writer make us change our outlook from a crowded modern quayside or the streets of a dreaming Spanish town to the quarterdeck of Drake's galleon, the assault on a treasure-stocked stronghold, or the blood-stained march of Morgan's desperadoes. Indeed, the traveller may well envy the author his faculty of peopling the places which he visits from out of the sleeping centuries; though they are scarcely ghosts which pass before us on his screen, but rather living, fighting, swearing men, cut-throats, heroes, and buccaneers, summoned up in the garb and fashion in which they lived their desperate lives. No less successful are his pictures of an antique polite and official world, the fine gentlemen of the colonies who, when buccaneer or chartered pirate was not engaged in sacking their towns, strutted their parts in the West Indian islands of the seventeenth century as bravely as any brother gallants on the Mall at home. We may instance the peep which he gives us at "St. Kitts in all its glory." But it is in the darker side of the picture that his descriptive force appears most strongly, a force that would seem at times almost too brutal were it not for the nearly unimaginable horrors upon which it is expended, the wiping out of Martinique by the death-cloud from St. Pierre, the destruction of Kingston, the ancient atrocities of the Gold Road in Panama, along which the buccaneers flogged their toiling slaves. This last chapter alone should earn the book a distinctive place in the English literature of travel, and very fascinating are those brighter pages in which the author tells of certain exploits of English ships and arms upon the Spanish Main, notably his magnificent story of "No Flint" Gray and "H.M.S. *Diamond Rock.*" It is in reference to such heroic feats that he has named his book "The Cradle of the Deep," for, as he explains, "in the seclusion of those gorgeous islands, indeed, the long sea story of England was begun. The West Indies became the nursery of the British Navy, the school where the thews were hardened and the sea lessons learned."

But it must not be supposed that Sir Frederick Treves has no eye for the gracious side of his subject. We could quote many passages to show his appreciation of the wonderful beauty of the West Indies; such chapters as "The High Woods" of Trinidad breathe its very spirit and the allurements of many other islands receive their fair share of a praise which never gets out of hand, for although the author can people the places which he has seen with imaginations of the past he does not employ his fancy to over-embroider his descriptions of what he has seen, as over-enthusiastic travellers are prone to do. But when he is able to bestow complete admiration he can do so in such wise as in this description of his first sight of the humming-birds which must commend itself irresistibly to all who have shared his joy of watching them in their native gardens:—

> They came from all sides; tiny winged wonders of blue, green, and gold, that for a moment one took to be great bees. They were so capricious, so alert, so quick as to be hard to follow. They sucked the honey from each flower while on the wing. They hung before the scarlet calyx in an ecstasy of worship, each little suppliant a whirl of green and gold. The vibrating wings could not be seen. There was merely a poised palpitating body with a dizzy halo on either side of it. It was not until they rested, with shut wings, on a spray near by, that they turned to birds again.

That is admirably seen and admirably written, and we could quote many equal passages.

We have little to find fault with in the book, except the statement on p. 12 that the English straw hat is the only head-covering required in any West Indian island. A prolonged stay in their lowlands would convert most people to the advantage of the sun-helmets which he scorns but which are worn frequently by the inhabitants. We also regret that the author's tour did not include a ride up the Blue Mountains of Jamaica. He would have found in them a worthy theme for the very able powers of description which he shows throughout "The Cradle of the Deep." We cannot finish our review of a book which we have enjoyed greatly without paying a tribute to the admirable humour of the chapter on "Saba the Astonishing," and we should much like to know if we may really believe it all, for it tells of an island that outdoes the conceptions of the most irresponsible comic opera.

A Text book of Surgical Anatomy. By WILLIAM FRANCIS CAMPBELL, M.D., Professor of Anatomy, Long Island College Hospital, Attending Surgeon to the Methodist Episcopal, Swedish, and Bushwick Hospitals; Consulting Surgeon to the Jamaica Hospital. With 319 original illustrations. London and Philadelphia: W. B. Saunders Company. 1908. Pp. 675. Price 21*s.* net.

THE scope of surgical anatomy varies greatly with the choice of the writer; with some it is merely that portion of anatomy a knowledge of which is especially needed by surgeons, but with others it includes not only this amount of anatomy but also some pathology, and occasionally even treatment. The value of these extensions of the original scope of works on surgical anatomy depends greatly on the author, and though Dr. Campbell appears to us to have included much that is not usually to be found in a book claiming to deal with surgical anatomy, yet he has written so well that we cannot complain. The book is excellent and there is little to which exception can be taken. The author appears to attach undue importance to the parathyroid glands and they hardly deserve the page that is devoted to them. We cannot agree with Dr. Campbell when he says that in transverse fractures of the patella, "all forms of treatment except open operation must result in fibrous union because of the fibrous curtain which has dropped between the fragments." We agree that the open operation is the best but subcutaneous wiring and even splinting methods may result in bony union. The book is well provided with illustrations.

Squint and Ocular Paralysis. By E. LUCAS HUGHES, M.R.C.S. Eng., L.R.C.P. Lond., Fellow of the Royal Institute of Public Health; Clinical Ophthalmic Assistant, Royal Infirmary, Liverpool. London: H. K. Lewis. 1907. Pp. 206. Price 6*s.* 6*d.* net.

SQUINT and disorders of mobility of the eye appear to exercise an extraordinary fascination upon students of ophthalmology, leading them to rush into print upon the slightest provocation or even without any encouragement at all. The present work is better than the majority, for it deals less with personal fads founded upon uncontrolled theorisation and gives credit to those to whom it is due, particularly to the real founders of the orthoptic method of treatment, Javal and Parinaud. This is doubtless due to the author's work as a clinical assistant in Paris, which has also led him to describe and to explain the uses of Rémy's diploscope, an instrument which is seldom referred to in English text-books. Mr. Hughes is, of course, an enthusiast; *cela va sans dire.* He is a whole-hearted disciple of the orthoptic school and we are not surprised to find that his enthusiasm outruns discretion. We do not agree with the statement that "with persevering orthoptic treatment, especially under the age of seven, strabismus, instead of rarely, may be said to commonly disappear of itself." We do not wish for a moment to undervalue this method of treatment in suitably selected cases, but we are convinced that it has been grossly overrated in the past and that its proper sphere of influence is likely to be obscured by the injudicious attitude which is so common in matters of this kind and is so much to be deprecated. The author has not neglected the work of English observers, notably Maddox and Worth; indeed, it appears to us that he has borrowed with much freedom from the writings of the latter author. The discussion of ocular paralyses follows the usual lines and contains nothing that will not be found in the ordinary text-books. The same may be said of the chapter on disturbances of muscle balance. We have already expressed the opinion that the book is better than most of the specimens of its class, and as such it can be confidently recommended to the student as a good introduction to this branch of ophthalmology.

LIBRARY TABLE.

Ueber Abdominale Totalexstirpation des Myomatösen Uterus. Von M. GRAEFE. Halle: Carl Marhold. 1907. Pp. 33. Price M.0·8.—In this paper Dr. Graefe discusses the question of total extirpation or removal by supravaginal amputation of the uterus containing fibroid tumours. Personally he favours the former operation and he brings forward the usual arguments in favour of his view. The matter is essentially one which each operator must settle for himself and which must, moreover, often depend on the exact conditions found at the time of the operation. Those surgeons who dread the subsequent occurrence of carcinoma of the stump of the cervix, and Dr. Graefe has himself collected 14 cases of this kind, will take care to remove the whole uterus. He does not believe that the objections hold good that total removal of the uterus leads to shortening of the vagina or endangers the functions of the pelvic floor, and he has not seen any such bad results follow this operation. At the same time it must be remembered that no operator has ever obtained such good results after total extirpation as those recorded by Zweifel—namely, 201 operations of supravaginal amputations with only one death. The author has performed total extirpation in 33 cases and he records the results of these operations as well as of 11 performed under similar conditions by his colleague, Dr. Wittauer, or a total of 44 cases with four deaths. Two of these he claims were not the result of the operation, giving a total mortality of 4·8 per cent. The question is one which time alone will settle and for our part the author does not convince us that the opinion that supravaginal amputation is preferable in the majority of such cases is a wrong one, nor do we imagine that he will succeed in converting to his view any other advocate of this eminently satisfactory operation.

Manual of Diseases of the Ear, Nose, and Throat. By JOHN JOHNSON KYLE, B.S., M.D., Professor of Clinical Otology, Rhinology, and Laryngology in the Medical College of Indiana, Department of Medicine at Purdue University; Otologist, Rhinologist, and Laryngologist to City Hospital, St. Vincent's Hospital and Dispensary, Indianapolis. Second edition, revised and enlarged. With 169 illustrations. London: Sidney Appleton. 1908. Pp. 627. Price 12*s.* 6*d.*

net.—The first hundred pages consist of a brief review of the embryology of the ear, nose, and throat, and the anatomy and physiology of the ear, the nose, nasal fossæ, accessory sinuses, and trachea, with the bacteriology and pathology of the ear, nose, and throat. The methods of examination, special instruments, and therapy, including a very large number of prescriptions, occupy the next 70 pages. Chapter IX. deals with diseases of the external ear and the next chapter is devoted to diseases of the middle ear, including injuries. We notice that Dr. Kyle has included in his work a short account of the work done by Escat and Alexander with regard to the effect of arteriosclerosis on the labyrinth; for treatment he recommends iodide of potassium The chapter on diseases of the nose is, like the preceding one, very full, especially considering the size of the book. Nasal polypi are, however, termed "myxomata." There is a very minute description of the submucous operation on the nasal septum which we think will be found very useful. Diseases of the oro-pharynx and pharynx, which are made to include diphtheria and diseases of the larynx, contain very good descriptions of all the various diseases. Although this work cannot be said to present very many subjects in a new light, still it is an extremely useful and valuable addition to books of a moderate size available for the use of practitioners of general medicine. It is extremely well written, the illustrations are very good, and it is a work which we believe will prove of great service to those who are too busy to have recourse to larger books.

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—In the May number Dr. James M. Beattie writes on acute rheumatism and details the evidence in favour of its bacterial origin. Under the title of "The Eclectic Treatment of Skin Diseases" Dr. W. Allan Jamieson reviews the work of Unna, now set out in detail in the monumental treatise of his pupil, Dr. Iwan Bloch. Professor Harvey Littlejohn and Dr. J. H. H. Pirie discuss micro-chemical tests for semen, the most hopeful being Barberio's picric acid reagent. Lieutenant-Colonel W. B. Bannerman, I.M.S., gives an account of recent researches into the causation of plague in India and concludes that infection is conveyed both from rat to rat and from rat to man solely by the agency of the rat flea.

The Scottish Medical and Surgical Journal.—In the May issue Dr. A. H. F. Barbour concludes his discussion of the evidence of frozen sections on the question of the lower uterine segment, and maintains that recent investigations do not tend to alter the accepted view. Miss Anne Mercer Watson writes on medical inspection of schools and criticises a recent memorandum from the Education Office with considerable severity. Dr. Stuart M'Donald reviews the position of pathology in the new curriculum of the University of Edinburgh and deplores its separation from practical medicine—a separation which has been effected at other seats of learning with very doubtful advantage. Some clinical notes by Dr. John Gordon deal with a case of vesicular eruption produced by a preparation called zambuk and with the alarming effects of a cantharides blister applied for sciatica; and Dr. J. Eason records some good results obtained in the eczema of infants and young children by thyroid substance.

The Medical Chronicle.—In an article on hydrocele in children Mr. E. D. Telford writes as follows: "A hydrocele if left to itself will eventually undergo an apparently complete cure;" while later he says that a certain "operation, if carried out in a series of hydroceles, will yield another argument for its adoption"—i.e., the credit for relieving a condition which would have disappeared spontaneously will be given to the operation and used as an argument for further proceedings of the same kind. We do not know if this is meant to be sarcastic or serious. Dr. Frank E. Tylecote narrates a case of post-typhoid furunculosis which yielded to vaccine treatment. An abstract of recent work by Professor von Noorden on nephritis is contributed by Dr. W. B. Warrington.

The Dublin Journal of Medical Science.—Dr. Walter G. Smith's contributions on chemical subjects are always interesting and the paper on clinical examination of the urine appearing in the May number of this journal is no exception to the rule. He constructs a urinary catechism, the questions in which may not seem any too simple even to those who are fairly familiar with the composition of the urine. "M.D. Theses," by Dr. Thomas O. Graham on epidemic diarrhœa and by Dr. T. J. Townsend Wilmot on syphilitic affections of the eye, appear in the same number.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

THE session of the General Medical Council lasted until late on Wednesday afternoon, the unusual length of the sitting being due to the exhaustive hearing of the Catford case.

On Tuesday the following committees of the Council, in addition to those published in THE LANCET last week, were nominated:—

The Finance Committee, consisting of Mr. Tomes (chairman), Mr. Morris, Sir John Tuke, and Dr. Little.

The Dental Committee, consisting of the President, Mr. Morris, Mr. Tomes, Mr. Hodsdon, and Sir Thomas Myles.

The Dental Education and Examination Committee, consisting of Mr. Tomes, the President, Mr. Morris, Dr. Lindsay Steven, Dr. Finlay, Sir Thomas Myles, and Sir Charles Ball.

The Students' Registration Committee consisting of Sir Hugh Beevor, Dr. Norman Moore, Sir C. Nixon, Sir John Tuke, Dr. Adye-Curran, and Dr. Mackay.

We continue our report of the Catford case at the point at which we broke off last week.

MONDAY, JUNE 1ST.

The Catford Case.

Mr. HEMMING at the outset handed in an objection which the legal assessor perused.

Mr. LUSHINGTON: I can see that this is a protest against the attitude of the legal assessor and I do not think I ought to state it myself. I will hand it to the President.

The PRESIDENT said that this was not an objection but a protest. It was suggested that interruptions had been made with an object not favourable to the accused practitioner. The protest was not an objection and would be placed on record but it had no bearing on the future proceedings of the Council.

Dr. MCVAIL: You say it will be placed on record. Must that not be subject to the permission of the Council?

The PRESIDENT: We will consider that *in camerâ.*

Nurse PARKER, who is engaged at the London Hospital, was, by leave of the Council, then called as a witness. She spoke as to the attendance of Mr. Nicolas at a case at Thornton Heath on a date in April, 1907, on which one witness alleged he was in Catford.

Mr. HOWARD WALLACE, shipbroker, 85, Downhill-road, Catford, as a neighbour of Mr. Nicolas, stated that the latter did not take up his residence in Downhill-road until April 8th, 1907.

Mrs. ELLIS denied certain allegations made by a previous witness as to canvassing.

A succession of witnesses entered the witness-box. They were all acquainted with Mr. Nicolas. They denied that he had canvassed them and contradicted previous allegations.

Mrs. ROSE RIMMELL stated that she had formerly been a patient of Mr. Atkinson. She had taken in Mr. Nicolas as her doctor, because he had saved the life of herself and her little girl. She had not been canvassed by Mr. Nicolas but had called him in on her own accord.

Mrs. GALVIN, a widow, stated that she had taken a document round the neighbourhood and in one day had got it signed by 82 persons who were patients of Mr. Nicolas. By signing the document those persons stated that they had not been canvassed nor had they heard Mr. Nicolas say anything disparaging of Mr. Atkinson.

Mr. HEMMING asked leave to hand in the document.

Mr. NEILSON asked how far documents of this sort were admissible in the Council's procedure. If the Council did not admit them in the ordinary form he would take objection to this document.

Mr. HEMMING pointed out that Mr. Nicolas was charged with systematic canvassing. By what method could Mr. Nicolas meet the charge? He could meet it by an *alibi*, or by a general denial supported in this way, or by his own denial. He produced the signatures of a large number of people who had signed the document that they had not been canvassed by Mr. Nicolas. If he could not meet the charge in that way how could he do it at all? There must be some way of holding a due inquiry. He could not subpœna these people. The Council had no power to issue a subpœna. He could not compel them to attend and give evidence.

Mr. LUSHINGTON said that the Council so far as possible regulated its procedure by that in a court of law. However, they were in this difficulty, because they had no power to compel the attendance of witnesses, or to put them on their oath, or to use ways by which courts of law could reinforce their methods of dealing with witnesses. In this case he was inclined to advise the Council to admit this document. He should point out to the Council what in his opinion it was worth. He added that the best evidence the Council could have was that of Mr. John Papa Nicolas to show whether there was anything in the case or not. In the meantime he would take in the document.

Mrs. GALVIN, cross-examined by Mr. Neilson, maintained that nobody asked her to take round the document; the idea of it came into her head by itself.

In answer to Mr. LUSHINGTON she stated that she had been supplied with no list of people. She went on her own accord to get up the signed petition. Mr. Hemming never came to her about it nor anyone from him.

Mr. HEMMING then went into the witness-box and stated that Mrs. Galvin came to him and said that she had heard Mr. Atkinson was proceeding against Mr. Nicolas. She suggested a petition. Mr. Hemming prepared it at her request and to that extent it was his document. He had prepared it just as if anyone had asked him to write a letter. He did not supply the list of names.

Mr. JOHN PAPA NICOLAS then proceeded with evidence in his own behalf. He handed in ten certificates testifying to character and professional ability.

Mr. HEMMING: Have you ever canvassed for patients?

Mr. NICOLAS: No.

Mr. HEMMING: Have you ever disparaged Mr. Atkinson?

Mr. NICOLAS: No.

Mr. HEMMING: Have you ever praised Mr. Atkinson up?

Mr. NICOLAS: Yes. Witness went on to state that he first had been assistant to Mr. Hugh Latimer Atkinson, the brother of Mr. Thomas William Atkinson. He was some time afterwards asked to go as assistant to the latter at Catford. After negotiation he went at a salary of £180 a year.

Mr. HEMMING: Was there anything said about signing a bond or agreement then?

Mr. NICOLAS: No. He went on to say that Mr. Atkinson attended the better class patients. He liked to pay the first visit to patients himself when possible.

Mr. HEMMING: When you had been with Mr. Atkinson for some time did you suggest leaving him?

Mr. NICOLAS: When I had been with him for about nine months I was one day at his surgery at his private house and when I was making up some medicine he asked what I was meaning to do as time was going on. I said I had really not made up my mind and I wanted to know something about an increase of salary or a partnership. He said that he was quite satisfied with me and he would think about the partnership himself, and he wanted me to stay two or three months at a salary of £200 a year. Then he said he would like to have a bond. I said, "No; I do not see the need for having a bond."

Mr. HEMMING: Who first mentioned the bond?

Mr. NICOLAS: Mr. Atkinson. He left Mr. Atkinson shortly afterwards to go abroad on private business.

Mr. HEMMING: At this time what was the relationship between you and Mr. Atkinson with reference to two points: firstly, a possible partnership; and secondly, the possible return to him at an increased salary as his assistant?

Mr. NICOLAS: He proposed to give me £200 a year if I stopped for three months or thereabouts and then a partnership. He parted with Mr. Atkinson on splendid terms.

Mr. HEMMING: When you left him what was the position?

Mr. NICOLAS: He agreed I was going back. Witness proceeded to say that on his return a communication was made to him through another doctor that Mr. Atkinson's attitude towards him had entirely changed and that conduct of the kind alleged in the charge was imputed to him. Witness was not conscious of having done anything to warrant this. He wrote to Mr. Atkinson and asked for an explanation. He did not get an answer but only a letter from the Medical Protection Society signed by Dr. Hugh Woods. Witness denied that he stated to Dr. Woods that he was not going back to Catford. He only visited him to try to obtain an explanation of the letter.

The witness had not completed his evidence when the Council adjourned.

The Council continued the consideration of the charge against Mr. John Papa Nicolas, and the examination of that gentleman was continued by Mr. Hemming, his solicitor.

Mr. NICOLAS went on to say that after he received the letter from Dr. Hugh Woods he was anxious to meet the complaint and to know who the complainant was.

Mr. HEMMING: Mr. Atkinson said that he did not ask for the bond before because he was foolish. Can you give any other reason?

Mr. NICOLAS: I cannot give any reason at all.

Mr. HEMMING asked him if all the time he was with Mr. Atkinson he had been loyal towards him and had done his best for his interests?

Mr. NICOLAS: I always did.

Mr. HEMMING: Did you work for him as hard as it was possible for any man to work?

Mr. NICOLAS: Yes. He denied that he had booked a midwifery case for himself after he returned. It was not true that he had told the person in question that he would give her his address when he returned to England. He did not give her a card with the slightest intention of taking her away from Mr. Atkinson.

Mr. HEMMING: Did you ever endeavour to injure Mr. Atkinson's reputation?

Mr. NICOLAS: No, it was the other way round.

Mr. HEMMING: In event of what you admitted taking place as to an assistantship or a partnership, would it have been to your interest to promote his ability and character rather than to disparage him?

Mr. NICOLAS: Yes.

Mr. HEMMING: Have you ever to any patient made a comparison between your own and Mr. Atkinson's methods?

Mr. NICOLAS: Never.

Mr. HEMMING: Have you ever made a comparison between your own and Mr. Atkinson's treatment?

Mr. NICOLAS: No.

Mr. HEMMING: Have you ever made disparaging remarks about Mr. Atkinson's medicine?

Mr. NICOLAS: No.

Mr. HEMMING: I believe you admit fully you have changed Mr. Atkinson's medicine.

Mr. NICOLAS: Yes.

Mr. HEMMING: Did you consult Mr. Atkinson when you changed the medicine?

Mr. NICOLAS: I always put it in the books whenever I changed my own or his. He went on to say that Mr. Atkinson gave him full permission to use his own skill when he went to patients.

When the proceedings were resumed after an adjournment for luncheon,

Mr. NICOLAS'S examination was continued. He went back to Catford in April, 1907, and started practice there because it was a growing place and there was room for doctors. He knew no reason why he should have refrained from going.

Mr. HEMMING: Since you have been at Catford I believe some patients of Mr. Atkinson have come to you.

Mr. NICOLAS: Yes.

Mr. HEMMING: What steps did you take with regard to Mr. Atkinson's patients?

Mr. NICOLAS: I would not accept any patients of Mr. Atkinson unless I was certain that patient had severed his connexion with Mr. Atkinson.

The witness was then cross-examined by Mr. Neilson, who took him step by step through his association with Mr. Atkinson. He went to Mr. Atkinson in the spring of 1906 and the question of signing a bond was not raised then. He denied that such a question was raised until a month before he left. He repeated his assertion that when he left Mr. Atkinson there was an arrangement that after he returned from his voyage abroad he was to return to Mr. Atkinson first as assistant and then as partner.

Mr. Neilson: Do you now tell the Council that there was no price fixed which you were to pay for the privilege of having a share in his practice?

Mr. Nicolas: There was no money named.

Mr. Neilson: You did not think you were going to get the share for nothing.

Mr. Nicolas: Oh, no.

Mr. Neilson: What was arranged?

Mr. Nicolas: It was arranged I was to come back as assistant if I came back from abroad in about two or three months. He admitted no specific month was named. He thought that later on he was to get a share in the practice—he understood about a fifth. He was distinctly under that impression. The practice, he believed, brought about £1500 a year. That meant he would get £300 a year after three months. He thought that it was understood that the terms would be two years' purchase. Those were usual terms.

Hr. Neilson: Was that ever named between Mr. Atkinson and yourself?

Mr. Nicolas: It was understood.

Mr. Neilson: You were wrong then in what you told the Council just now about the terms.

Mr. Nicolas: I remember now what it was. He went on to say that he had read the declarations lodged in support of the case and he had seen many of the declarants with the exception of one, whose statement he characterised as an invention. When he knew what charges Mr. Atkinson was bringing against him he did not write to him. He could not write to a man who had insulted him. He went on to say that one of the witnesses who had appeared had said she had got *5s.* to come to the Council.

Mr. Neilson: Do you suggest that the London and Counties Protection Society had paid a woman *5s.* to come and give false evidence?

Mr. Nicolas: That was what she said.

Mr. Neilson: Do you suggest, standing in the witness-box to give evidence before the Council, that this woman was paid *5s.* to come here and give false evidence by the London and Counties Protection Society?

Mr. Nicolas: Very likely she has from that society or some other society. Whether she gave true or false evidence I do not know.

Mr. Lushington: You suggest that the society has paid her to give false evidence.

Mr. Nicolas: I cannot say positively the society. I withdraw, but she said she was paid *5s.* He would not now suggest that the society had paid her to give false evidence. The cross-examination further dealt with certain detailed allegations.

Further hearing of evidence for the defence was postponed.

The Council adjourned.

WEDNESDAY, JUNE 3RD.

The Council resumed its sittings at its offices to-day, *Dr. Donald MacAlister, the President, being in the chair.*

The Catford Case.

The Council continued hearing evidence in defence of Mr. John Papa Nicolas, who had been summoned before it on a charge of having systematically canvassed in Catford for patients.

Mr. Hemming (solicitor for Mr. Nicolas) said that it would be remembered that on Monday last he handed in a protest against the legal assessor. He had subsequently requested the legal assessor to refer the matter to his own Bar Council. He had had no reply.

The President: I cannot allow you to make that remark.

Mr. Hemming: It is true.

Mr. Henry G. Fraser, packing case maker, Sandhurst-road, Catford, was then called as a witness. He did not know Mr. Atkinson. Mr. Nicolas was his doctor. He had never been canvassed by Mr. Nicolas. He had recommended him on his own motion.

Mr. Neilson: Do you know Dr. Atkinson?

Mr. Fraser: No, Sir.

Mr. Neilson: What did you come all the way from Catford for?

Mr. Fraser: I came on Mr. Nicolas's behalf.

Mr. Arthur Fraser, also of Sandhurst-road, Catford, gave evidence that he had once consulted Mr. Atkinson, but he had gone to Mr. Nicolas. The reason of his change was that Mr. Nicolas was a clever man.

Mr. Lushington (the legal assessor): The Council has had a large class of this kind of evidence—namely, on the point that there are plenty of patients of Mr. Nicolas's who have not been canvassed. Of course, I told you what we thought of that class of evidence before.

Mr. Hemming said that he would call no more evidence. The legal assessor had said that he would advise the Council on certain points. Would that advice be given in the hearing of the accused?

Mr. Lushington said that it would not be so given. On the conclusion of the hearing the Council would begin to deliberate *in camerâ*. If the members of the Council called upon him to advise them *in camerâ* he was there for that purpose.

Mr. Hemming: Will any statement be volunteered to the Council or will it only be in answer to any request? A judge only speaks to the jury in the presence of the accused. I protest against the legal assessor saying anything to the members of this Council unless my client hears it.

Mr. Lushington: I am not here to do as a judge, nor am I in attendance as a judge.

Mr. Hemming: It will happen that there will be something secret after my client leaves this room. He then proceeded to address the Council and to review the case. He called attention to the high testimonials which had been given to the skill and ability of Mr. Nicolas, and the inquiry was the most serious one in which he could be involved unless it was an inquiry involving life and death. Mr. Atkinson admitted that at the time when Mr. Nicolas left his service he thought he was a young man of considerable ability. He afterwards turned round and attacked Mr. Nicolas, but there was nothing, he argued, to warrant Mr. Atkinson's attack on Mr. Nicolas. He had every confidence that he could demonstrate the character of Mr. Nicolas and his courage in meeting this charge, and also Mr. Atkinson's reluctance to come into the open and meet various charges fair and square. If the complaint against Mr. Nicolas was an absolutely honest one what objection could there be to letting him know what that complaint was? When the application was first made for the document there was not the slightest expectation that it would be withheld. The substance of his complaint was that he had been driven to take extreme steps in order to get a copy of the document to which he was entitled. It was not until there was a threat of proceedings against the Council that he succeeded in getting a copy of the document.

Dr. Little (intervening) said he was very unwilling to rise, but he thought Mr. Hemming was not really aware of the case before the Council. They were not called on now to decide whether the modes of procedure of that court were right or wrong. They were called on to consider the conduct of Mr. Nicolas and the learned counsel had not said one word about that up to the present time. The members of the Council had no right to be kept there listening to arguments as to the mode of procedure of the court.

Sir Christopher Nixon protested against the observations of Dr. Little. He thought he was justified in saying that after the large expenditure of time that had been given to this case there should be no attempt made by any member of the Council in any way to restrict the rights of the advocate for the accused practitioner.

Dr. Saundby supported the protest of Dr. Little. Mr. Hemming had been impugning the procedure of the Council. If that procedure was wrong it could be dealt with at another time. No good could possibly come through going over matters which were perfectly well known to the Council.

Mr. Hemming continued his address. He believed if the Council knew his object in making the observations he had done they would be a little more patient with him. He had no wish in any way to irritate members of the Council but rather to conciliate them. It was open to him to show that the procedure of the Council had very considerably impeded his defence in these proceedings. He expected that Mr. Atkinson would go into the witness box after he got a copy of the document but Mr. Atkinson had not gone into the box. It was the original wrongful withholding of the document and the absolute compulsion he was under to get it, that had led to Mr. Atkinson being only partially cross-examined by him. Mr. Hemming then commented at length on Mr. Atkinson's declaration and pointed out a number of variations between the original complaint of Dr. Woods and the charge as ultimately formulated by the solicitor to the Council. That fact alone, he submitted, justified him in strenuously asking for the original complaint. The charge his client had to meet had been enlarged and elaborated and now appeared dressed up in quite a different form. He contended that it was the original complaint his client should have to answer and that it did not lie with the solicitor to make a new charge. It was the solicitor's duty to frame the charge on the material originally placed before the Council and not to introduce anything fresh. He could show that there had been a very serious addition made to the original charge and to that extent he submitted the proceedings were irregular. His client was charged with "infamous conduct in a professional respect." The word "infamous" was one of the strongest they could find in the dictionary. At the very worst, what Mr. Nicolas had been guilty of was nothing more than a boyish indiscretion. If the word "infamous" was to be used in its ordinary sense it could not possibly be applied to such trivial acts as might have been committed by his client. Mr. Hemming went on to review the sworn declarations of the witnesses for the complainants and referred to the remarkable fact that no less than four of these declarations had been disowned by the people who signed them. He contended that the greater part of the evidence put forward by the London and Counties Medical Protection Society was utterly unreliable and ought to be received with contempt by the Council. His client's future was now, forsooth, to be dependent on the evidence in which there was clearly animus. He went on to deal with his cross-examination of Mr. Atkinson, taken in November.

Dr. SAUNDBY: If we are to listen to the reading of the evidence over again it would be taking up the time of the Council most unfairly.

Mr. HEMMING: I am only going to read the part relating to partnership. Mr. Atkinson, he said, admitted it might have been mooted but he had no recollection of it. He submitted that Mr. Atkinson's answers were vacillating on that point. It was inconceivable that Mr. Nicolas would go round and canvass Mr. Atkinson's patients if he was looking forward to be his partner or assistant. If there was a partnership or an assistantship mooted there could be no charge of canvassing before August, 1906. If Mr. Atkinson admitted mooting the question of partnership the charge failed. If Mr. Nicolas had any hope of being Mr. Atkinson's partner he would not have canvassed his patients. It would not have been worth his while. Mr. Nicolas was precise with regard to the mention of a partnership, and he would ask the Council to come to the conclusion that a partnership was mentioned. He contended that Mr. Nicolas in his cross-examination vindicated the consistency of his evidence. He said that Mr. Atkinson had not produced a patient which Mr. Nicolas had canvassed and taken away from him. Mr. Nicolas after he left Mr. Atkinson's employment went away from Catford for eight months. He set up about a third of a mile from a branch surgery of Mr. Atkinson in a district where there were hundreds of new houses springing up. When this charge was taken step by step its hollowness would be seen.

Mr. NEILSON then addressed the Council on behalf of the complainants. He pointed out that the case before the Council was entirely different from the action for libel in the High Court. This case was a charge against Mr. Nicolas for infamous conduct in a professional respect. Two different issues and entirely different matters were involved in the cases. The complaint against Mr. Nicolas was made by the Medical Protection Society as far back as June, 1907. The writ on which the action for libel by Mr. Nicolas was based was not issued until Nov. 15th. A comparison of these two dates exactly showed with what eagerness Mr. Nicolas pursued his redress in the first instance. Now as regarded the charge the burden of it was that Mr. Nicolas had systematically canvassed in Catford for patients by personal visits to patients of Mr. Thomas William Atkinson. It was suggested that that was not infamous conduct in respect of his profession. He would remind them of the definition of infamous conduct in a professional respect. Lord Esher in 1894 laid it down that if it was shown that a medical man in pursuit of his profession had done something with regard to it which would be reasonably regarded as disgraceful or dishonourable by his professional brethren of good repute, then it was open for the General Medical Council to say that he had been guilty of infamous conduct in a professional respect. He submitted that definition for the consideration of the Council in all its aspects and he would say with the greatest confidence that if the charges which were alleged against Mr. Nicolas in this case and supported by evidence were true then no more complete example of infamous conduct in a professional respect could be found applicable to the medical profession, of which he was a member. If the Council found what he submitted was true he hoped that they would have no difficulty in finding the accused practitioner guilty of infamous conduct in a professional respect. He went on to review the incidents of the case. He asserted that when Mr. Nicolas was asked to sign the bond he refused and said he would rather go. He repudiated the idea that there was a suggestion for a partnership. The whole thing, he submitted, was an invention from start to finish. He suggested that if Mr. Nicolas asked Mr. Atkinson if there was a chance of partnership Mr. Atkinson replied not for several years. That was consistent with a statement made by Mr. Hemming. Why should Mr. Atkinson take this man who had given notice as a partner? Mr. Nicolas had no money. The whole position was entirely inconsistent in what Mr. Nicolas said now and what was said in November. He went on to say that when Mr. Nicolas was away from Catford from September, 1906, to April, 1907, there were rumours that he was coming back to practise in opposition to Mr. Atkinson. He would ask the Council to disbelieve some of the allegations made in regard to events about this time by Mr. Nicolas. It was Mr. Hemming's case that all these people who had been called for the complainants had conspired to raise a grossly dishonest case for the purposes of misleading the General Medical Council. It was that or nothing. He suggested that his (Mr. Neilson's) witnesses spoke the truth, that they came to tell the truth, and in their cross-examination their veracity was absolutely untouched. He submitted that Mr. Nicolas came back to Catford in pursuance of a scheme he had previously formed and in order to show Mr. Atkinson that he was going to do what he liked in the matter. The only explanation of the circumstances which was possible and true was that when Mr. Nicolas found that he did not get a bond, when he found he had not signed a bond, when he found it was necessary that he should sign a bond, he thereupon gave notice to go. He made the most of his time between the notice and the time he went. He had plans laid about a house before he went. He pursued these plans after he came back. He came back and canvassed the patients of Mr. Atkinson whom he could remember. Mr. Nicolas denied that. The question was, Which side should the Council believe? He submitted that his witnesses had spoken the truth and he asked the Council to find that Mr. Nicolas had canvassed the patients of Mr. Atkinson and that the Council should deal with him accordingly.

Mr. LUSHINGTON made a short statement in which he said that the Council had all along been guided by the advice of their legal advisers on points of procedure. He pointed out that one witness had made two declarations, one on one side, the other on the other. The solicitor and he had held it to be their duty that he should ask leave in such a case that they might look at both declarations to see whether they should advise the Council to send them to the Public Prosecutor.

This closed the hearing of the case.

After deliberation *in camerâ*,

The PRESIDENT said: Mr. John Papa Nicolas, I have to announce to you the decision of the Council. The Council have judged you to have been guilty of infamous conduct in a professional respect and have directed the Registrar to erase from the Register the name of John Papa Nicolas.

Mr. HEMMING asked that the erasure might be postponed for a month in order that he might apply for a writ of *certiorari*.

The PRESIDENT: You can make your application to the office in the usual way and we shall answer it.

The Public Health Committee.

On the motion of Dr. LINDSAY STEVEN the report of the Public Health Committee was received. It was in the following terms: An application has been received from the University of Sheffield for the recognition of its Diploma in Public Health. The committee has carefully considered these regulations and finds that they are drawn on similar lines to those of the Universities of Liverpool and Leeds. The committee observe, however, that the regulations as they stand are not as regards Rule 4 completely in accord with those of the Council. Subject to modification in the above sense the committee recommend the Council to recognise for registration the Diploma in Public Health of the University of Sheffield.

Dr. **LINDSAY STEVEN** moved that the Council should recognise the Diploma in Public Health of the University of Sheffield conditional on the regulations being brought into accord with Rule 4 of the Council and that the President should be authorised to give effect to this resolution on being satisfied that the condition had been fulfilled. If the University of Sheffield would agree to make it clear that they demanded an examination and education in methods of hospital administration then he thought they might leave it in the hands of the President to grant the diploma full recognition.

Dr. **NORMAN WALKER** seconded.

The motion was agreed to.

The Reading of the Minutes.

Mr. **MORRIS** moved to discontinue the practice of having the minutes read over each morning by the Registrar immediately after the Council assembled. Nearly £1 was disbursed by the Council for each minute which it sat. The reading of the minutes on an average took a quarter of an hour. On working that out he found that it cost the Council from £11 10*s*. to £13 10*s* every time the minutes were read over to them. This session they had spent £108 for listening to the minutes being read. He thought that they should take the minutes as read, especially as they were circulated to members in printed form every morning.

Mr. **TOMES** seconded the motion.

Dr. **MCVAIL** suggested that the subject should be referred to the Executive Committee to consider.

After a short discussion a suggestion on the lines of that made by Dr. McVail was agreed to.

The Administration of Anæsthetics.

The Council then took up the consideration of the report by the Education Committee in regard to a communication from the Privy Council on the subject of the administration of anæsthetics. Its terms were: The following communication has been referred to the committee by the President:—

The Clerk of the Council, Privy Council Office,
No. 100,278. London, S.W., March 27th, 1908.

Sir,—Referring to a resolution (copy inclosed) adopted by the members of the Medico-Legal Society and others at a meeting held on the 24th instant, urging legislation with a view to making the administration of anæsthetics illegal except by duly registered medical practitioners, I am directed by the Lord President of the Council to state that his lordship will be glad to be favoured with any observations the General Medical Council may have to offer thereon.

I am Sir, your obedient servant,
The Registrar, General Medical Council. A. W. FITZROY.

[COPY.]

MEDICO-LEGAL SOCIETY.
MARCH 24TH, 1908.

At the close of the meeting Dr. Frederic Hewitt will propose, and Mr. R. Henslowe Wellington will second, the following motion:—

"That the two following resolutions be forwarded, in the name of the Medico-Legal Society, to the Privy Council and to the General Medical Council respectively:—

'That as the administration of any drug or drugs, with the object of producing generalised insensibility to pain or actual unconsciousness for any medical or surgical purpose, or during child-birth, cannot be safely undertaken without medical knowledge and skill, your petitioners humbly pray that legislation be granted whereby the administration of any drug or drugs with either of the aforesaid objects by any person other than a duly registered medical practitioner or someone acting immediately under his supervision, direction, and instruction, be made a penal offence.

That in view of the importance of the administration of anæsthetics, this society is of opinion that it is highly desirable in the public interest that every member of the medical profession, before he is registered, shall have received instruction in the administration of anæsthetics. It therefore earnestly begs the General Medical Council to consider whether they can see their way to include a course of instruction in anæsthetics amongst their "Requirements in regard to Professional Education."'

STANLEY B. ATKINSON, } Hon. Secs."
DIGBY COTES-PREEDY, }

The committee recommend that the reply of the Council be in the following terms:—

I. The General Medical Council has consistently endeavoured to safeguard the interests of the public in matters relating to the practice of medicine. They will, therefore, willingly support any measure which has as its object to render illegal the practice, save by duly qualified and registered practitioners, of any department of medicine and surgery, including the branch of practice to which special reference is made in the communication from the Privy Council—viz., the administration of anæsthetics.

II. The Council has within the last year issued a "recommendation" to the Licensing Bodies that a course of study in the administration of anæsthetics should be included in the curriculum; and they have reason to believe that the "recommendation" has been already given effect to by many of the bodies.

Dr. **MACKAY** moved the adoption of the report and that the reply to the Privy Council should be in the terms which it recommended.

Dr. **LINDSAY STEVEN** seconded. He said that the subject the report referred to had been brought prominently before the body which he represented. In Glasgow the Procurator-Fiscal had been taking an active interest in the administration of chloroform, particularly in connexion with certain deaths. He had sent an inquiry to the Faculty of Physicians and Surgeons whether they could make any regulation whereby it could be insured that two medical men should be present where chloroform was being administered.

The motion was agreed to.

The Registrar, Mr. H. E. Allen, was reappointed, and on the motion of Dr. **MACKAY** a vote of thanks was awarded to the President for his service in the chair.

The session of the Council then came to an end and it adjourned until November.

It may be explained that owing to the length of the session and the very long time occupied in the consideration of the Catford case several items which were put down on the programme for discussion were postponed until the next session of the Council. The decision in the Catford case was not given till 6 30 P.M. and the discussion on the various motions was abbreviated so as to obviate a sitting on the following day.

ASYLUM REPORTS.

Kingseat Asylum, Aberdeen.—There were under treatment at this asylum during 1907 261 males and 237 females, being a total of 498 patients. The discharges during the year numbered 48. 16 men and 18 women were discharged recovered, the percentage of recoveries calculated on the admissions being 39·5. Of the recoveries 10 had been resident for at least three months, 11 between three and six months, seven between six and nine months, one between nine months and a year, four between one and two years, and one under three years. The deaths numbered 34—17 men and 17 women. These figures give a death-rate of 8·2 per cent. on the average number of patients resident and of 6 8 per cent. on the total number under treatment. We note that the medical superintendent, Dr. H. de M. Alexander, reports that the privilege of parole has been greatly extended and with the most happy results. Dr. Alexander writes: "It has been frequently observed that a few patients who are irritable, discontented, and lazy when confined become more contented and begin to work on their own initiative on being allowed greater liberty."

Glasgow Royal Asylum.—At this asylum the total number under care for 1907 was 563. The discharges during the year numbered 103. 27 men and 26 women left as recovered, a percentage of 36·5 on the total admissions. 30 recovered after less than three months' treatment, 18 after less than 12 months, and five after treatment lasting from one to four years. The deaths were 29 in number, giving a percentage of 6·8 on the average number resident. Dr. L. R. Oswald, the physician-superintendent, points with satisfaction to the fact that during the last three years 105 persons have sought treatment in his hospital of their own free-will and argues therefrom that the public is slowly realising that the best hope for the mental sufferer lies in an early resort to such special treatment as can only be got in institutions properly equipped and adapted. Dr. Oswald further notes that the recovery-rate of voluntary patients is higher than that of those who are certified, that the duration of treatment is shorter, and that only in a small number of cases is it necessary to resort to certification.

Barnwood House.—The total number of certified patients under treatment during 1907 was 182. Ten patients were discharged recovered—that is, 29·4 per cent. on the admissions. The number of deaths was ten, giving a death-rate of 6 71 per cent. on the daily average number resident.

St. Andrew's Hospital, Northampton.—At this hospital the total number of patients under treatment during 1907 was 496 34 patients were discharged recovered, being a percentage of 40·47 on the admissions. 13 deaths occurred, being a percentage on the average number resident of 3·17. The extensive alterations and additions which have been going on at this hospital are now completed. A resident medical officer has been appointed to look after the patients resident at the seaside home at Bryn-y-Neuadd.

THE LANCET.

LONDON: SATURDAY, JUNE 13, 1908.

The Medical Man and the Coroner.

IT may be remembered by our readers that in the years 1903 and 1904 the heading which we have printed above this article occurred very frequently in our columns, generally with the addition of the word "Pathologist." During those years we were engaged often in referring to the extraordinary position which was taken up by Mr. TROUTBECK, the coroner for Westminster and South-West London, in connexion with the giving of medical evidence in inquests which he held. Mr. TROUTBECK, it appeared, had assumed office on the understanding with the London County Council that he should adopt a policy recommended by the control committee of that body which obliged him to intrust the post-mortem examinations in all cases "of a special nature" to a specially skilled pathologist. So liberally did he interpret his mandate that —we quote from a letter by Mr. DONALD SHEARER in the *Times* of June 9th—"between May, 1903, and February, 1905, Mr. TROUTBECK found it necessary to call in a special pathologist, Dr. FREYBERGER, 816 times in place of the local or hospital medical attendant. During the same period the other seven coroners in London had between them 46 cases requiring special pathological knowledge. On most, if not all, of these 816 occasions public money was wasted; in not a few an erroneous verdict was arrived at for want of accurate clinical information." The justice of these remarks will be apparent to any fair-minded reader of many cases which we reported in 1903, cases in which the evidence of the medical practitioner who had attended the deceased would have had obvious value in correcting or corroborating post-mortem findings by clinical observations. In 1904 the legality of Mr. TROUTBECK'S conduct was challenged, and many instances of the omission of highly relevant evidence were reported to the LORD CHANCELLOR by a joint deputation of the British Medical Association and other societies which sought to call attention to the dangers of the new procedure. It will be remembered that Lord HALSBURY'S reply was a *non possumus*, for in a letter dated July 29th, 1904, the societies which had approached him were informed "though his lordship's present impression is not in favour of the coroner's practice, his lordship does not as yet see that there is such a case as would found the exercise of the only jurisdiction which he possesses—namely, to remove a coroner for misconduct in his office." The snub to Mr. TROUTBECK had, be believe, no effect on him.

We should hardly have present occasion to re-tell this story were it not that Mr. TROUTBECK has seen fit to give a further exhibition of his attitude towards the practice of medicine. It is true that in the former controversy he was wont to protest that he was guided by strictly impersonal motives, but his thinly veiled suggestions that professional opposition to his innovation was the simple result of fee-hunger and his free attribution of "impertinence" to medical men in disagreement with him caused doubts to arise as to his strictly judicial frame of mind. He may, of course, in his latest anti-medical dictum be again displaying strict impersonality, but his behaviour, while it can bring serious grief into suffering families, appears on the face of it to be instigated by a desire to show that the fee-hungry medical profession is also actuated by murderous instincts. The occasion for Mr. TROUTBECK'S activity against the medical profession arose as follows. It appeared by the proceedings at an inquest that Sir VICTOR HORSLEY had operated on a patient at the Bolingbroke Hospital, from whom he removed a cerebellar tumour. Three days after the operation the patient died, the cause of death, for which a certificate had been duly given to the registrar, being heart failure due to pressure which had been previously exerted on the nervous system by the tumour. An inquest was held by Mr. TROUTBECK, before whom, in the course of giving his evidence, Sir VICTOR HORSLEY protested against the holding of an inquest in so plain a case. The jury returned a verdict of "Accidental death," which the coroner suggested to them at the close of a homily which was virtually an attack upon the practice of surgery. Mr. TROUTBECK'S views on the progress of medicine ran something as follows. He said that operations were much more frequent than they used to be and that clearly they were to some extent the cause of the deaths that resulted; they could therefore not possibly be called natural deaths and came within the Coroners Act of 1887 which made inquests imperative in such cases; and he attempted, or is reported to have attempted, to clinch this argument by saying that such was the opinion of all coroners. It is hard to see how this statement can be reconciled with the following passage from the report of the Coroners Society for 1902–03: "In cases where a patient has recovered from the effects of the anæsthesia, and the death was due to a necessary operation or the disease for which the operation was performed, an inquest is not required; provided always that there is no allegation of neglect, serious rumours, or presumed want of skill on the part of the operator, or that the friends of the deceased do not request an inquest for their satisfaction." In this light any appeal by Mr. TROUTBECK to his colleagues must appear unfortunate; if he has quoted them as being of his opinion he is not a very accurate person. We can imagine a medical coroner, with some show of logicality, sitting to inquire into such an event as a death after a surgical operation, if scientific grounds appeared to warrant the inquiry, but how anyone of Mr. TROUTBECK'S attainments, which may be enormous in the legal direction, could possibly guide a body of men like a coroner's jury to any sort of verdict upon the circumstances of a surgical operation passes imagination.

Mr. TROUTBECK'S departure shows him once again to be ignorant of the spirit of the medical profession. Is he correct in his legal interpretation of his duties? The third section of the Coroners Act of 1887 provides that where a coroner is informed that the dead body of a person is lying within his jurisdiction, and that there is reasonable cause to suspect that such person has died a violent and unnatural death or has died a sudden death, of which the cause is unknown, or "in such place or under such circumstances as to require an inquest in pursuance of any Act," the coroner shall summon a jury. He would be a zealot, indeed, who construed this language to mean that an inquest must be held in every case where a patient has not proved amenable to surgical treatment. If Mr. TROUTBECK bases his contention on the fact that death in such a case is "unnatural" he would have to go further and say that the cause of every death taking place after medical treatment of any kind should be investigated by a coroners' jury. It is further implied in the Registration Act of 1874 that a death from disease under treatment *secundum artem* is not unnatural, and without such a safeguard medical practice would be impossible. The more we reflect upon Mr. TROUTBECK'S latest move the more he seems to have been instigated by a simple desire to wound the medical profession which cannot be got to regard him as anything but mischievous. But the public will suffer if Mr. TROUTBECK has his way much more than the medical profession. Mr. TROUTBECK will not be able to persuade juries that medical men operate the love of giving pain and from lust of gold, regardless of the true needs of the patients; and the distress caused by the publicity of unnecessary inquests to many families in the first grief of a bereavement will be extreme.

◆

The Value of the Surrey Isolation Hospitals.

DR. EDWARD C. SEATON, the county medical officer of health of Surrey, has recently issued an interesting and instructive report with reference to the effect of the operation of isolation hospitals and compulsory notification in that county upon the behaviour of scarlet fever, and in his investigations he has been ably seconded by Dr. JOHN WILLIAMSON who has conducted some original and valuable researches upon the subject. As a frontispiece to the report is a chart showing the death-rate from scarlet fever per 1,000,000 of the population in England and Wales from 1856–1906, and this chart brings out the now well-known fact that a marked decline in the death-rate of the disease had commenced prior to the general provision of isolation hospitals and long antecedent to the introduction of compulsory notification. This circumstance is obviously one of first-rate importance in a consideration of the influence of isolation but it is nevertheless easily possible to over-estimate its value. Question at once arises as to what this decline in the death-rate really means. Does it imply diminished prevalence of the disease, or may it be that while the disease itself is becoming far less virulent its actual prevalence is as great as, or even greater than, before? This question is very difficult, if not impossible, to answer, inasmuch as antecedent to notification we had practically no data as to prevalence, and even with notification we must be careful in generalising. Increase or decrease in the number of notifications may really mean nothing more than a sort of systole and diastole of the type of the disease—at one period easily recognisable, at another only so with difficulty. Again, our medical practitioners may be becoming more expert in the recognition of the disease than formerly.

It must, nevertheless, be said that the evidence in favour of a diminished fatality-rate of the disease during recent times is very strong—indeed, practically conclusive, and the question to be asked is, How far is such decrease to be attributed to the operation of notification and isolation? Before an answer could be found to this question it would be desirable to investigate the behaviour of scarlet fever in countries where there are practically no isolation hospitals, but as Dr. SEATON has not gone into this aspect of the question we shall not do so ourselves; and it has certainly to be admitted that in the present unsatisfactory condition of statistical returns in almost every other country but our own journeys into international figures are perilous undertakings likely to lead to inferences of a far-reaching but not improbably mischievous and misleading character. In so far as Surrey is concerned, Dr. SEATON concludes that isolation and notification have had an influence in the reduction both of the death-rate and the fatality-rate of scarlet fever, but he does not find it possible to detect how far, if at all, the attack-rate has been influenced—i.e., it cannot be shown, he thinks, that the preventive measures taken have materially affected the *notification* case-rate. He finds, in fact, that there is "no very obvious correspondence between the hospital isolation and the prevalence of the disease." The fact that there is "somewhat *less* scarlet fever in a district *with* isolation accommodation than in the same district without" is, of course, as Dr. SEATON recognises, not very convincing as to the value of isolation hospitals, and it is at this stage that Dr. WILLIAMSON'S *investigations may be usefully introduced.*

He has at considerable pains investigated the history of all notified cases in the Epsom and Dorking combined districts from 1891–1905 and his results are presented in the form of charts, "hospital" and "home" treated cases being depicted separately and, by way of eliminating the possibly disturbing factors of good class houses, he has dealt with cottage cases only—i.e., cases where the opportunities for proper isolation were clearly remote. The general conclusions brought out by these charts are those which we have on many occasions predicted in these columns—i.e., that the major damage as regards the *infection of other persons is brought about before the first case has been recognised, notified, or sent to hospital,* and that consequently the influence of isolation hospitals is less than had at one time been anticipated. Dr. WILLIAMSON'S "hospital" charts indicate that a very high percentage of secondary cases were infected before the removal of the first patient; they show, indeed, that somewhere about two-thirds of the secondary cases are thus to be accounted for. The charts, however, bring out the instructive and consoling fact that the advantage as regards the avoidance of secondary cases is always on the side of the hospital until after the seventh week from the occurrence of the primary attack when the so-called "return" cases begin to appear and, seemingly, influence the "hospital" chart to a materially greater degree than the "home" chart. As Dr. WILLIAMSON concludes, "*it is plain, therefore, from* the above charts and figures, that an earlier discovery or recognition of cases is necessary to make hospital isolation fairly effective."

There is no doubt, as we have for years past urged, that it is the *unrecognised* case which governs the situation both as regards scarlet fever and many other diseases, and the work before us is not that of sitting with arms folded but of endeavouring to discover the unrecognised case. There can, we think, be no serious question in the minds of the vast majority of medical officers of health alive to their responsibilities that properly administered isolation hospitals have a very distinct value in our administrative machinery and that the public will continue to demand their provision. It is for this reason that we regret to see certain medical officers of health rather discouraging the erection of such hospitals since there are so many local authorities who are only too anxious to catch at any straw with the view of justifying their inaction. Numerous instances of this have come beneath our notice. It would be especially regrettable at the present time, when the medical inspection of school children is actually in the making, were we to discourage the erection of isolation hospitals. The steady progress of this inspection movement cannot fail to bring to notice very many unrecognised cases of infectious disease which hitherto have escaped notice, and the interest which the teachers will gradually acquire in this inspection will prove eventually to be a powerful factor in the earlier recognition of communicable diseases. Much of the future attitude of local authorities with reference to the provision or non-provision of isolation hospitals depends, we imagine, materially upon that of Dr. ARTHUR NEWSHOLME, the recently appointed medical officer of the Local Government Board, and having regard to the growing scepticism of local authorities as to the value of isolation hospitals, it might serve to steady public opinion were some official pronouncement from Whitehall to be forthcoming.

◆

Tics and their Treatment.

THE term "tic" has long been employed to denote certain habitual and meaningless gestures. Great confusion has, however, existed in regard to the group of conditions to which it has been applied. Even the etymology of the word is somewhat obscure and it has been suggested that it was originally onomatopœic and that it conveyed the idea of repetition. It has long been employed in France and so long ago as 1665 JEAN JOURDIN described the *tique* of horses. It is to the French physicians that we are especially indebted for the definite separation of the true tics from conditions which resemble them, notably to TROUSSEAU, whose description is characteristically clear and accurate, and to CHARCOT, who first established the significance of the psychical factor in tic. GILLES DE LA TOURETTE advanced our knowledge by separating the form to which his name is usually attached, while BRISSAUD and his pupils have further studied the conditions and devised special methods of treatment. Recently M. HENRY MEIGE and M. E. FEINDEL have published a monograph on the Tics, which has been translated into English by Dr. S. A. K. WILSON.[1] This book is a most suggestive contribution to the study of the disease and is well worthy of our readers' consideration. After a detailed analysis of the clinical features of the various tics the authors define the condition as follows: "A tic is a coördinated purposive act, provoked in the first instance by some external cause or by an idea; repetition leads to its becoming habitual and finally to its involuntary reproduction without cause and for no purpose, at the same time as its form, intensity, and frequency are exaggerated; it thus assumes the characters of a convulsive movement, inopportune and excessive; its execution is often preceded by an irresistible impulse, its suppression associated with malaise. The effect of distraction or of volitional effort is to diminish its activity; in sleep it disappears. It occurs in predisposed individuals who usually show other indications of mental instability." Tic is thus to be regarded as a psycho-motor affection, and in tracing its evolution the authors show that the cortex is involved. The original movement may have been voluntarily executed in response to some irritation but in the subject with a tendency to tic the movement is repeated even after the source of irritation has ceased and soon the reiterated gesture becomes habitual and automatic. An interesting chapter deals with the mental state of the subjects of tic. Although they may be, and often are, of high intelligence and fertile in imagination, they usually present on careful investigation definite evidence of mental instability. The most constant feature appears to be one of "mental infantilism"—evidenced chiefly by retarded or arrested development of the will, so that the *tiqueur* cannot exert his will sufficiently to check his tic permanently. The *tiqueur* is also often irresolute, lacking in perseverance, and is subject to vagary and caprice. Tics are also not infrequently associated with obsessions and with various phobias, such as agoraphobia and claustrophobia, indeed some obsessions occurring in the subjects of the tic have been described as "psychical tics" or "tics of idea," terms which M. MEIGE and M. FEINDEL most strongly deprecate the use of, since they insist on the dual nature of tic, one element being mental, the other motor, and the two being inseparable; in other words, they maintain that a mental condition which does not eventuate in some motor reaction is not a tic. In regard to the etiology of tics, heredity is shown to be of great influence, though in regard to direct heredity the factor of imitation is difficult to separate, but dissimilar heredity, both neuropathic and psychopathic, is also very frequent. The environment is a matter of great importance, especially where children are concerned, the parents of *tiqueurs* being often inclined to over-indulge and to "spoil" them. The pathological anatomy of tic is still to seek; hitherto no lesion has been discovered in such cases to which the symptoms can be referred and although cases are on record in which lesions have been described M. MEIGE and M. FEINDEL are of opinion that in all of them the diagnosis has probably been an erroneous one, conditions of spasm from irritation being regarded as tic.

The study of the motor reaction of tics shows that they may be clonic or tonic in character. The various tics are described by M. MEIGE and M. FEINDEL according to the regions which they affect—viz., facial tics, auditory tics, tics of the eyes, including nictitation and vision tics; sniffing tics, sucking tics, tics of the chin, of the tongue, sometimes called licking tics; tics of the jaws, biting and masticatory; tics of the neck, of the trunk, of the arm and shoulder; and tics of the lower extremities, including walking and leaping tics. As examples of tonic tics mental trismus and mental torticollis are instanced. Under the heading of tics of speech, echolalia and coprolalia are described, since they are not infrequently to be observed in the subjects of tic, although the authors do not regard them as tics but simply as associated defects. Gilles de la Tourette's disease is described as a separate form in which the course is regularly progressive and one which is often associated with echolalia and coprolalia. Another form is described as the variable chorea of Brissaud. A chapter is devoted to the antagonistic gestures and stratagems to which the subjects of tic resort in misdirected ingenious attempts to overcome their special tics. In regard to diagnosis, the distinction of tics from stereotyped acts, from spasms, from chorea, myoclonus, athetosis, tremors, and professional cramps is discussed in detail. It is especially in regard to spasms, such as facial spasm and spasmodic torticollis, that difficulty may occur, and illustrative cases are given to show the methods to be adopted. In regard to prognosis, we are told that this depends solely on the mental state of the patient. "He who can will can effect a cure," say the authors, but they also admit that the tendency to tic remains and that whereas tics of childhood are curable a permanent cure is less frequent in the tics of adult life. The treatment of these conditions is given in considerable detail and comprises, in addition to medicinal and certain physical forms of treatment, such as massage and electrical methods, the re-education system introduced by Professor BRISSAUD, which is briefly epitomised by the authors as "a combination of immobilisation of movements with movements of immobilisation." The patient is directed to perform certain appropriate exercises, some being directed towards teaching him how to preserve immobility, while the object of others is to replace an incorrect movement by a normal one. The exercises have in general to be performed in front of a mirror. Examples are given in illustration of the methods of treating various special tics. The book is a model of what a monograph on a special subject should be, for it is clearly and critically written and it is suggestive in character as well as instructive. Dr. WILSON is to be congratulated on the excellence of his translation and on rendering so useful a work available in English form.

---

[1] "Tics and their Treatment," by Henry Meige and E. Feindel. With a preface by Professor Brissaud. Translated and edited with a critical appendix by S. A. K. Wilson, M.A., M.B., B.Sc.Edin. London: Sidney Appleton. 1907. Pp. 386. Price 9s. net.

At a recent meeting of the Neurological Section of the Royal Society of Medicine[2] a discussion on "Tics" was opened by Dr. HENRY HEAD who paid a well-deserved tribute to the part played by French observers in developing our knowledge of this subject. He also laid stress upon the mental factor in the development of tics and stated that although the *tiqueurs* may be above the average in ability there is always something that betrays their want of balance. Dr. E. FARQUHAR BUZZARD pointed out an exception to the general rule that a tic originates in a voluntary movement in that form which occasionally results after a severe attack of chorea. Dr. L. G. GUTHRIE emphasised the importance of distinguishing between tics and spasms, the latter being merely motor reactions to local irritation somewhere in a spinal or bulbo-spinal arc, whereas the tic is a psycho-motor reaction. He also deprecated the use of the term "habit spasm" as a synonym for the tics, since they are certainly not spasms nor are they true habits. The subject is one which is deserving of notice, since the condition is frequently regarded as irremediable, whereas by careful treatment marked amelioration and in some cases actual cure can be effected.

Annotations.

"Ne quid nimis."

THE DANGERS OF MOTOR OMNIBUSES.

THE recent attack made upon several motor omnibuses in Mile End-road after one of their number had run over a child showed that a very strong popular feeling exists against these vehicles, caused by the reckless way in which too often they are driven. As they are maintained largely for the purpose of what may be called "popular" traffic this feeling is worthy of note. The Stepney borough council has, we observe, been considering a resolution to be laid before the Home Secretary and the Commissioner of Police in favour of reducing the maximum speed of all motor and other vehicles within the County of London to ten miles an hour. This would be a regulation which would render London streets safer and less noisy, but if it were to be applied universally it would be extremely difficult to enforce owing to the number of private carriages the owners of which would be found to infringe it, particularly in quiet streets. Motor omnibuses, as a general rule, are driven with far more care and skill than was the case when they were first introduced. We cannot, however, judge them as a whole from what we see of their movements in the West-end and by day. It is at night, and particularly in places where a public frequents the streets whose protests are not likely to reach the ears of those in authority, that they will be found to exceed the proposed limit of ten miles per hour considerably and to take risks which they ought to avoid. The police in regulating them in this respect might also note the manner in which they are allowed to be overcrowded in the evenings when their passengers are going home from their day's work. These, no doubt, prefer to travel rapidly, but that is no reason why people who have secured seats in a motor omnibus should have their safety endangered and their scanty supply of air obstructed by "strap-hangers," while horsed omnibuses proceed in the same direction half empty. We note that the committee of the Stepney borough council responsible for the recommendation to restrict speed had before them figures showing that in 1907 there were 16,010 accidents caused by horseless vehicles on the roads, of which 4723 were due to motor omnibuses. Whether these figures are those of London only or of a wider area we are not aware, but the question in any case is of some gravity.

AN EARLY TEMPERANCE TRACT.

IT is open to the social historian to speculate how far the so-called "crying evils" of the day are an affair of journalistic and literary tradition rather than of actual induction from statistics. It is assumed by many excellent people that England is rapidly degenerating owing to habits of intemperance, to the growth of gambling and immorality, to the love of pleasure, and to the pursuit of gain, but these censors of their time are not students of history and the evolution of manners. Rather they are highly suggestionised readers of cheap newspapers and followers of particular prophets whose tradition in both cases may be said to date back to the palmy days of

---

[2] Proceedings of the Royal Society of Medicine, Neurological Section, Jan. 30th, 19[illegible] 41.

Puritanism. As long ago as 1628 William Prynne published the first rabid temperance tract under the title, "Healthes Sicknesse, or a Compendious and briefe Discourse, proving the Drinking, and Pledging of Healthes, to be Sinfull, and utterly Unlawfull unto Christians; by Arguments, Scriptures, Fathers, Moderne Divines, Christian Authors, Historians, Councels; Imperiall Lawes and Constitutions; and by the voice and verdict of prophane and Heathen Writers." It is a question whether Prynne did not set going for all time the bogey of national intemperance. He seems to have been among the first to discover that drunkenness was *par excellence* the national vice, but he believed this failing to be of recent introduction into England. According to him the custom of drinking healths came into England from Europe—from Germany, Poland, and Scandinavia. He condemned the custom as a relic of primitive devil-worship and rightly maintained that, owing to the principle of "no heel-taps," it involved an excess of drinking which was injurious to health. He fails to recognise that Anglo-Saxons have always been robust drinkers and he attributes all the intemperance of his age—which was very nearly the period of Falstaff—to the habit of "healthing." His learning is so vast and his citations from the Greek and Roman writers are so copious that we are inclined to believe him to have been rather a student of books than an observer of facts. The England of 1628 drank wine and ale, and strong waters were only introduced into common use by his own kindred, the "saints" of the time of the Civil War. It was not till quite a century after Prynne's time that gin began to be the ruin of the eighteenth century working-classes. When Prynne penned his terrific tract England was probably neither more drunken nor less sober than at any period since the days of Hengist and Horsa.

MILK EPIDEMIC IN CHRISTIANIA.

Dr. Sömme of Mesnalien Sanatorium, in the *Norsk Magazin for Laegevidenskab* describes an extraordinary milk epidemic in Christiania which broke out during the first fortnight in March. The attack in almost every case began with a sore-throat. It was speedily traced to the milk-supply of one dairy and thence to a cow with a diseased udder. The cow was slaughtered and a bacteriological examination of the abscess found in the udder led to the isolation of streptococci in every way identical with the streptococci obtained from patients suffering from the epidemic. The streptococci showed the following characteristics: moderately long chains, each link being fairly long and divided longitudinally. They stained with Gram's method. Stained specimens suggested the presence of a capsule. On a serum culture the growth showed a thin moist film, almost watery, only a little adhering to a thread drawn over it. It did not grow on ordinary agar—on agar made alkaline the growth was slight. Ready growth took place in ordinary bouillon, ascitic and serum bouillon, and on plates of serum bouillon (Löffler's) with dextrose or lævulose added. Mice died in from 12 to 24 hours after intraperitoneal injections of minute quantities of the culture and cultures were easily obtained from the blood. It was found to be much less virulent for rabbits. The number of cases of the epidemic notified was 548, but as notification was voluntary it is probable that the number was considerably higher. An interesting feature of the epidemic has been the high proportion of adults affected, the ratio of adults to children being about 3 to 1. The clinical picture of the illness was as follows. High temperature, 40° C. or more, with sore-throat. The surface of the tonsils, pharynx, and downwards towards the larynx was of a glistening red; in other cases the redness was confined to punctate areas, and in yet others there was a diphtheria-like membrane which was easily removed. In the majority of cases the appearance of the throat was scarlatinal rather than diphtheritic. Swelling of the glands extended from the angle of the jaw downwards along the sterno-mastoid to the clavicle. In some cases the swelling was slight but the glands were excessively painful on pressure, and this condition sometimes lasted for a long time. Often the temperature fell by crisis after three days, then a relapse would occur followed by another crisis, febrile and non-febrile phases alternating during a period of many weeks. Complications, chiefly of a pyæmic character, were numerous; thus angina phlegmonosa occurred frequently; in one case a number of abscesses occurred on both sides of the throat accompanied by copious hæmorrhages from the nose and mouth. The odour of the pus was very offensive. One patient was almost choked by a purulent uvula of the size of a man's thumb. Further complications were rhino-pharyngitis, laryngitis, otitis media, ulcers of the tonsils and palate, empyema of the antrum of Highmore, infection of the accessory cavities of the nose, glossitis of such virulence that the swollen organ protruded from the mouth, erysipelas, in one case dacyro-cystitis, stomatitis, œsophagitis with dysphagia, and albuminuria. Other complications were pyarthrosis, acute rheumatic fever, synovitis, bronchitis, empyema, pleurisy, pericarditis, hæmorrhagic nephritis, phlegmasia alba dolens cruris, paresis of the left hamstring muscles, and erythema of both legs two weeks after infection. Gastro-enteritis and diarrhœa were apparently not common. Of the cases ending fatally the following may be cited. Case 1. A male, aged 81 years; heart failure occurred on the fifth day. Case 2. A female, aged 74 years; fever, vomiting, pain, and effusion in the left knee-joint and right carpus. Death took place a fortnight after infection. Characteristic streptococci were found in pus from the knee-joint. There were parenchymatous degeneration of the liver and kidneys and fatty infiltration and dilatation of the heart. Case 3. A male child, aged 16 months; diarrhœa, vomiting, fever lasting only from four to five days, and empyema. Death ensued on the eleventh day. Case 4. A female, aged 47 years; general glandular swelling. The patient was convalescent after the third week, then ensued sudden onset of pain in the muscles, principally those of the lower extremities, and pain in both knees and wrists, also in the temporo-maxillary joint; the temperature gradually rose to 43° C., accompanied by dyspnœa and œdema of the lungs. Death occurred a week after the onset of the relapse. Post mortem there were ecchymoses on the surface of the heart but none on the lungs. The spleen was soft and swollen, with well-defined markings. Serous exudate was present in the knee-joints. Case 5. A female child, aged four months (case of fatal secondary infection). An inflamed nævus had been treated with lanolin also used for an otitis media in an older child suffering from the milk epidemic. There was meningitis and lumbar puncture showed the typical streptococci. The child was breast-fed. A somewhat similar epidemic involving 15 patients is described by Dr. C. Grey-Edwards and Mr. W. D. Severn in THE LANCET of June 12th, 1897, p. 1605.

"CANARY FEVER."

IN a recent number of the *Annals of Tropical Medicine and Parasitology* Dr. C. E. Walker contributes an interesting study of a troublesome illness to which visitors to the Canary Islands are particularly susceptible and which is generally known as "Canary fever." The result of Dr. Walker's inquiry has been to show that this is simply due to a bacterial infection of food, such as might occur in any country, and he has been unable to find any evidence as to a specific infective agent in the disease. The symptoms are those of a gastro-enteritis with very severe griping pains, and sometimes the passage of blood-stained mucus from the bowel, and from 60 to 80 per cent. of the visitors to the island are said to suffer from it. A curious feature about its distribution is that it is almost entirely confined to visitors to the hotels, the dwellers in private houses being as a rule free from the disease. This and other reasons have led Dr. Walker to acquit the milk- and water-supply from the responsibility of causing it, and he has been led to believe that it is due to a bacterial contamination of food, and especially of the meat, by flies, for the precautions taken to keep them out of the larders are very imperfect in the hotels, where also frozen meat is consumed that has been subject to fly contamination in transit. The dwellers in private houses, on the other hand, eat fresh meat almost exclusively and are very careful to keep it free from flies. Dr. Walker has also noticed that people who have partaken of soups and *réchauffés* that have been prepared without bringing them to the boiling-point, as is frequently the case in hotels, often suffer from the symptoms which he ascribes to fly infection of the cold meat from which such dishes are prepared. He concludes his paper with a set of useful suggestions for the preservation of all food from the risk of such contamination and lays stress on the necessity of sterilising by steam all dishes and cooking utensils. It will certainly be worth the while of the hotel keepers of Las Palmas and the neighbouring islands to put their houses in order in this respect, and should the fly theory of the disease be confirmed it is not too much to expect that the local authorities will protect their European visitors by regulations as to the storage and preparation of their food, for the continuance of such a troublesome "epidemic" must seriously jeopardise the popularity of the islands as resorts for the winter, at which season the disease is most prevalent.

PARALYSIS OF THE SUPERIOR OBLIQUE MUSCLE OF THE EYE AS A RESULT OF DIRECT INJURY.

PARALYSIS of the external ocular muscles as a consequence of direct traumatism to the eyeball and orbit is not of very frequent occurrence. Dr. Michael Kos of Przemysl, in a paper published in the *Wiener Medizinische Wochenschrift* of March 14th, states that up to the year 1906 38 cases had been collected from the literature by various observers, and that among them there were only two cases of paralysis of the superior oblique muscle. He records in detail an interesting case observed by himself as a further example. The patient was an artilleryman who sustained a direct injury just above the inner canthus of the right eye owing to losing his balance while mounting a provision wagon and falling in such a way as to cause a projecting piece of iron of the size of the little finger on one of the cross bars of the wagon to penetrate the orbit in the situation already mentioned. Not only were the soft parts lacerated but in addition the orbital plate of the ethmoid bone was fractured, so that on sniffing, air escaped from the wound for two days after the injury. There was considerable swelling of the contused tissues in the wound but healing occurred in nine days. After the bandages were removed the patient found that he was unable to walk properly owing to diplopia. He was therefore admitted into hospital. The site of the injury was indicated by a discoloured area of skin over a swelling of about the size of a pea in the nasal part of the upper lid on the right side. No alteration was observed about the globe of the eye and the fundus was found to be normal. Vision proved to be 6/6. Diplopia was present which the patient endeavoured to overcome by holding his head in a peculiar manner in order to avoid the giddiness which otherwise resulted. The diplopia was confined to the lower half of the field of vision. In the median line the image from the right eye was situated on the right, somewhat lower than the image from the left eye, with the upper end inclined inwards, but the separation of the images was so slight that the upper end of the right image touched the left. On looking downwards and to the left the deviation was at its maximum but the images were parallel. In order to avoid the diplopia the patient adopted the following position. His head was inclined towards the left, somewhat bent forwards, and rotated towards the right. It was evident that the superior oblique muscle was paralysed. There was no indication of any injury to its attachment to the eyeball or to the belly of the muscle itself, although the latter could not be definitely excluded. Dr. Kos suggests that the most probable explanation is that the trochlea itself was lacerated or detached by the fracture. In regard to treatment the faradic current was applied for some weeks without any improvement resulting. No operative surgical treatment was undertaken.

THE EQUINE STEAK.

RIGHTLY or wrongly, sentiment, at any rate in this country, is very vigorously directed against the use of horseflesh for food. The feeling is very strong and not a few persons evince disgust at the mere mention of the suggestion that an equine steak can rival the usual beefsteak as regards flavour and tenderness. But there are connoisseurs who allege that a Chateaubriand steak is all the better from the gustatory point of view when it is prepared from the flesh of the horse. The prejudice against horseflesh has doubtless arisen from a familiarity with the hard-working habits of the animal, and partly perhaps on account of its association with the diet of the cat. There is some idea that hard work renders the fleshy parts of the animal unfit for food and yet in countries where it has been the custom to eat horseflesh the demand is rapidly growing. In Paris, for example, it is reported that last year close upon 50,000 horses were killed for food, this showing an increase of 5000 horses on the figures of the previous year. It would appear, however, that the consumers of horseflesh are to be found chiefly amongst the poor people who are not able to pay the higher prices for beef or mutton. Still, the fact remains that horseflesh is a nutritious meat and it can be prepared in such a way as to be an attractive meat food which need not be tough or objectionable from the point of view of flavour. There are no physiological reasons against the use of it, and indeed the immunity which the horse (unlike the ox) enjoys from tuberculous disease is a decided point in favour of the use of horseflesh as against beef. Prejudice, however, dies hard, and not, perhaps, until the motor has completely driven the horse from a life of toil will its flesh be added to our list of meat foods to relieve the present monotonous round of mutton and beef. Whatever may be said in favour of the value of horseflesh for food, and whether sentiment is right or wrong, there can never be any justification for passing it off as something else. Even in places where horseflesh is a popular food, chiefly in the form of a sausage, the vendors are required to indicate the nature of the article which they sell.

MEDICO-BIOLOGICAL SCIENCE IN THE ITALIAN UPPER CHAMBER.

AN Italian correspondent writes: "His Excellency Signor Giolitti, unlike many Italian premiers, has shown a marked preference for men of science in his selection of names proposed to the King for senatorial honours, nature study and medicine taking precedence of all other subdivisions of the field of knowledge. True to this tradition he has among the eight professors just promoted to the Upper Chamber included five whose distinction has been achieved in biology or medicine. They are the following: Dr. Pio Foà, professor of pathological anatomy in the University of Turin; Dr. Antonio Carle, professor of surgical anatomy and *privat-docent* in clinical surgery of the same school; Dr. Giacomo Filippo Novaro, who holds the chair of operative surgery in the University of Genoa; Dr. Giovanni Paladino, professor of histology in the Neapolitan seat of learning; and Dr. Giovanni Battista Grassi, professor of comparative anatomy and entomology in the University of Rome, whose work in the "campagna anti-malarica" is well known throughout Italy and the English-speaking world. The Italian press comments approvingly on the reinforcement of the Senate by these authorities in their respective subjects, the future of Italy depending largely on the rehabilitation of her people hygienically as well as educationally and socially."

SUCCESSFUL OPERATION FOR PHLEGMONOUS GASTRITIS.

PHLEGMONOUS gastritis is a very rare condition of which only a limited number of cases have been published. In the *American Journal of the Medical Sciences* for May Dr. J. W. Bovée has published a case—probably the first—in which the suppurative form of the disease was successfully treated by laparotomy. A multipara, aged 33 years, was taken to hospital late on the night of Oct. 6th, 1907, by her medical attendant. For several years she had suffered from epigastric pain which was usually relieved by taking food. Her last period occurred on April 13th and she considered herself pregnant. On Oct. 3rd she ate heartily boiled cabbage at dinner and crab late at night. During the night she was attacked with severe pain in the gastric region which required the administration of morphine. On the following day the pain continued and vomiting began. Attempts to move the bowels by enemata and cathartics failed. The temperature ranged from 99·5° to 101·5° F. and the pulse was rapid and weak. On the next day croton oil was given but this also failed to act. Various remedies were administered to relieve the pain and vomiting, but without result. The vomit was at first solid and consisted of partially digested food. Later it was watery and frothy and dark green. On admission the pulse was thready and the expression was anxious. Examination under anæsthesia showed that the uterus extended an inch above the umbilicus and that the epigastrium was distended and tympanitic. An incision was made in the middle line above the uterus. The intestines were congested. The stomach was palpated and found to be fully three-quarters of an inch thick at the middle of the great curvature, gradually thinning towards the cardiac end. At the pyloric end and in front was a soft mass nearly of the size of a fist, which gradually thinned towards the middle of the stomach. The stomach was opened at about the middle by a longitudinal incision about three inches long and the mucosa was inspected. The pylorus would not admit the entrance of the tip of the little finger. In order to determine the nature of the enlargement a short incision was made over it. Gauze was packed around it and on incision two or three ounces of greyish pus escaped. The long incision in the stomach was closed, the abscess was wiped out, and a rubber tube was sutured in and brought out of the abdomen. A light gauze drain was packed about it. The patient was fed by the rectum for 21 days. Five days after the operation liquids were given by the mouth, as saline solution given hypodermically and liquids given per rectum did not quench the patient's insatiable thirst. On the following day the contents of the stomach came through the wound. A few days later solid food was given and the tube was removed. After a few days the contents of the stomach ceased to escape. On the eighth day abortion took place. Except for infection of the abdominal incision, which required resuturing, recovery was uninterrupted. Phlegmonous gastritis is characterised by the sudden onset of pain in the upper abdomen, which is increased by pressure, vomiting, rigors, and fever. If a tumour appears in the region of the stomach presumption of the disease becomes strong and if pus is vomited still stronger. In most cases a positive diagnosis is impossible. Excepting four cases the treatment has always been symptomatic, but the great progress of abdominal surgery will probably lead in the future to more frequent operation. The prognosis is bad; only two patients have been known to recover. In a case reported by Leith considerable peritonitis was present and the peritoneal cavity was washed out. Death occurred seven hours later. In a case recorded by Mr. A. W. Mayo Robson and Mr. B. G. A. Moynihan a gastric ulcer had eroded the pancreas and an abscess of that organ had burst into the stomach, causing acute gastritis. Posterior gastro-enterostomy was followed by recovery. In none of the recorded cases of operation was suppurative phlegmonous gastritis present, as in Dr. Bovée's case.

AN IMPENDING VISIT OF FRENCH MEDICAL MEN TO LONDON.

A MEETING took place at 20, Hanover-square, London, W., on June 4th, to discuss the question of giving a dinner in honour of the group of French medical men who are expected in England in July. Dr. Theodore Williams occupied the chair and explained that the impending visit was under the auspices of the "Voyages d'Études Médicales" which society had, on account of the Franco-British Exhibition, arranged an excursion to London in place of its annual visit to a French watering place. A number of resolutions were carried and it was arranged that a dinner should be given at the Exhibition on Thursday, July 16th, to 150 of our French visitors (ladies included). Those of the medical profession in England who wish to take part in this entertainment are asked to subscribe a sum of not less than 2 guineas to defray the cost of their own dinner and that of a French guest. A limited number of ladies will be included. The following executive committee was elected: Dr. G. Ogilvie, Dr. Leonard Williams, Dr. Leonard Mark, Dr. Dundas Grant (treasurer), and Mr. Macleod Yearsley. Gentlemen who wish to take this opportunity of showing hospitality to our French brethren are requested to communicate with a member of the committee without delay, as the banqueting accommodation at the exhibition is limited to 300.

LOCAL ANÆSTHESIA IN MINOR SURGERY.

THE interest in local anæsthesia which was initiated by the publication of Schleich's *method of infiltration* has steadily increased. There are many methods at present competing for general favour, infiltration, perineural injection with the use of a constricting band, intraneural injection, and modifications of the methods of Oberst, Braun, Krogius, and others. So there are also many local anæsthetics—cocaine, β eucaine, stovaine, alypin, and tropacocaine. The range of operations for which local anæsthesia has been used is ever widening. We may mention those involving skin areas, such as Thiersch's skin-grafting method, removal of superficial tumours, operations on the fingers and toes, removal of small mammary growths, ligature of arteries, extirpation of ganglia, and the more extensive procedures involved in operations upon the tongue, lips, trachea, ribs, and thorax. In some continental clinics goitres are commonly removed under local anæsthesia and besides the radical treatment of hernia abdominal operations of great magnitude have been conducted without using general anæsthetics. No doubt local anæsthesia presents many obvious advantages, and house surgeons, especially those in country infirmaries, will find benefit from acquiring a knowledge of its technique. There are, however, less obvious drawbacks and some reasons which have never been very fully advanced why the indiscriminate use of local anæsthesia by house surgeons should be discountenanced. The technique is not so simple as appears and the best results can only be attained by the most heedful attention to detail. In the rush of hospital work, especially in places where skilled helpers are lacking, it is not easy to obtain that all-important adjunct to the use of local anæsthesia—sterilisation of instruments, of solutions, and of the skin. The time occupied by an operation performed under local as opposed to general anæsthesia is considerably increased, and this is not always unimportant. In cases in which a local œdema may extend into dangerous regions —e.g., the tongue—perils may arise before they are recognised. It cannot be insisted upon too strongly that success in local anæsthesia is obtainable only after much practice and watching the methods when employed by competent exponents. The extreme simplicity of the proceeding like that of injection into the subdural space is such when it is performed by an expert that the observer is prone to imagine that "there is nothing in it" and that anyone can obtain an equally good result. Undoubtedly both local and intrathecal injections afford most valuable aids, the former for minor surgery and both in those rare cases in which general anæsthesia seems contra-indicated. There is, however, a danger lest the methods should suffer by unwise or unskilful use in the hands of those who have failed to recognise that much knowledge, patience, and experience are needed for the success, or even safety, of local anæsthesia and of the lumbar puncture.

THE DRINK CRAVING.

A CASE was heard before the Manchester justices a few days ago which illustrates clearly one of the difficulties met with in attempting to reclaim the chronic drinker by detention in an inebriates' home, in the hope, of course, that after two or three years' abstention from drink the craving for it may be lost. The case was that of a middle-aged woman charged with drunkenness, and this, it was said, was her forty-first appearance before the court. She had been in the inebriates' home at Langho for three years, was said to be a splendid worker when not in drink and a very good laundress. The chairman said that the magistrates were disposed to send her for a further term of three years to the home. There was something pathetic in the woman's reply. "She had tried her best to keep off the drink, but it seemed she was always getting into the hands of the police." She said further that she did not suppose three years would do her any good, "because the being in a home upsets one's mind and makes you worse when you come out again." This will accord with the experience of many who have to deal with such cases. The craving is not lost but only rendered impossible of indulgence for the time being. There may be a sincere wish "to keep off the drink," but when the chain is loosed the weak will has no chance against the cruel, merciless craving which wrecks once more even her own hopes of escape from what seems an irresistible fate. There was some further dialogue between the chairman and the drunkard, the former saying, that if you go with a determination not to benefit "I dare say there is something in what you say," but if you make up your mind that it will be better for you and that when you come out you will turn over a new leaf, "then you will be all right" It is to be feared, however, that the chairman's well-meant counsel was prompted more by hope than experience, which latter would chime in rather with her answer, that "unless a man or a woman, under my circumstances, absolutely leaves drink alone, no punishment will benefit them. I have tried it, and I know." She was committed again for three years to Langho, but what will be the result of this further experiment? Putting aside the quack remedies for the drink craving, the ill success attending their use scarcely justifying their serious consideration, we are left apparently to one plan as being the most merciful to the victims themselves and their families, and most assuredly the best for society. This, of course, is permanent detention. It would have to be administered carefully and proper safeguards against abuse would be required, while the conditions justifying and requiring such detention would have to be most carefully and humanely considered. It is thought right to confine lunatics, no doubt with, in some cases, good hopes of benefit, but also as a protection from themselves and as safeguarding others. The same reasoning may be applied to these cases with equal fitness.

METROPOLITAN HOSPITAL SUNDAY FUND.

A MEETING of constituents of this Fund will be held on Monday next, June 15th, at 3 o'clock, at the Mansion House, London, the Right Hon. the Lord Mayor presiding, when a marble bust of the late Mr. George Herring, the munificent benefactor to the Fund, will be unveiled. The presentation will be made by the Hon. Sydney Holland (one of Mr. Herring's executors), while Bishop Lawrence of Boston, Massachusetts, and Mr. Henry Morris, President of the Royal College of Surgeons of England, will address the meeting in support of the objects of the Fund.

THE Cavendish lecture will be delivered before the West London Medico-Chirurgical Society on Friday, June 26th, at 8 15 P.M., by Sir William Whitla, M.A., M.D. R.U.I., LL.D., in the Town Hall, Kensington, London, W. The subject is the Etiology of Phthisis. The President of the society is Mr. R. Lake, F.R.C.S. Eng , and the honorary secretaries are Dr. F. G. Crookshank, D'Antraigues, The Terrace, Barnes, S.W., and Mr. A. Baldwin, F.R C.S. Eng., 6, Manchester-square, London, W., who are now sending out invitations to be present on the occasion and to whom any communications should be made.

THE annual banquet of the Association of British Postal Medical Officers "to meet the Right Hon. Sydney Buxton, M.P., His Majesty's Postmaster-General," will be held at the Whitehall Rooms of the Hôtel Métropole on Tuesday, July 14th, at 7.30 P.M. The President, Dr. George A. Mason. M.A. Camb., will occupy the chair. The secretary of the dinner is Dr. R. Ritchie Giddings, Hillsborough House, Mansfield-road, Nottingham.

THE annual general meeting of the Medical Officers of Schools Association will be held at 11, Chandos-street, W., on Wednesday, June 17th, at 3.30 P.M., when Mr. John Hayward will open a discussion on the recent memorandum issued by the Board of Education to local education authorities *re* the medical inspection of elementary schools.

THE Governor of Hong-Kong has stated in a despatch to the Secretary of State for the Colonies that 133 cases of plague with 109 deaths were reported during the week ending June 1st. In the previous week 114 cases with 95 deaths were reported from that colony.

THE INTERNATIONAL FIRST AID CONGRESS.—The exhibition which is being held in connexion with the International First Aid Congress at Frankfort-on-Main was opened on June 6th. The first-aid section of the exhibition includes a large number of appliances which cannot fail to attract the attention of everyone interested in the humane work which the exhibits illustrate. Particular interest is shown by visitors in an improved rocket apparatus which is described as an aerial torpedo for life-saving at sea, for use from either shore to ship or from ship to shore. It consists of a line 500 yards in length, carried by a torpedo four inches in diameter and 20 inches in length. Its chief features are its portability and the ease and accuracy with which it can be manipulated.

THE LANCET

SPECIAL SUPPLEMENT

IN SUPPORT OF THE

METROPOLITAN HOSPITAL SUNDAY FUND

Published in aid of the Appeal to be made on Sunday, June 21st, 1908.

> "So many are
> The sufferings which no human aid can reach
> It needs must be a duty doubly sweet
> To heal the few we can."—COLERIDGE.

FOR more than twenty years THE LANCET has claimed the aid of those into whose hands its Supplement may fall on behalf of the suffering poor of London, and of the Metropolitan Hospital Sunday Fund. The appeal thus made on "Hospital Sunday" is addressed in the first place to those who, on that day, attend religious services in places of worship where collections in aid of the Fund take place, or in the case of members of the Jewish faith to those who on the preceding Saturday have the opportunity of contributing brought directly to their notice. In the second place it is hoped and believed that many who on the two days mentioned are not attending Divine worship in London or in any other locality where collections are being made on behalf of the Metropolitan Hospital Sunday Fund nevertheless will desire to aid. And all who have it in their power to do so are urged to remind these absentees to give, as well as to give themselves. Moreover the putting of it into the mind of others to give may well play an important part in the present year, 1908, for not only in the ordinary course of metropolitan life in summer many who usually dwell in London will be absent from it on Hospital Sunday, but there are also in our midst an unusual number of foreigners. At peace with all mankind, we are celebrating and cementing our friendship with the great nation across the Channel in a joint exhibition held in order to display to one another and to the world our achievements in the spheres of industry and of art, while the great exhibition does not stand alone as an attraction to bring foreigners within our walls. Those who come do so either in the pursuit of pleasure or of profit; it is not to be supposed that they will grudge a contribution to our great charities if they are but made aware of their existence and of their needs. The beggar knows well in all countries that in the foreigner he will find a sympathetic listener to his tale. The tale told by the hospitals is an oft-told story of need, of life lived from hand to mouth, of suffering endured by men and women; but, unlike that of other mendicants, their need is real; they work as well as beg, and it is on behalf of others that they work, it is upon others that they bestow the alms which they obtain; their doors are opened to native-born Briton and to foreigner alike. May we not then urge that all who have the power to do so should bring the Metropolitan Hospital Sunday Fund's need home to our visitors. If they are attending Divine worship in our midst they will become aware that Hospital Sunday is a special occasion falling but once a year, but otherwise they may leave London without ever hearing of the existence of the Metropolitan Hospital Sunday Fund. To remind others may be to some a less welcome duty than to give themselves, but none the less the Fund cannot afford to lose because it has failed to draw attention to itself at the right moment. To all, therefore, we appeal to influence the generosity of others no less than to exercise their own.

Why all should give.

We are aware that we are dwelling upon a tale not twice told but re-iterated many times in the past, and to be repeated by us, we hope, during many years to come, when we press the claims of the hospitals upon all, making no exceptions, and "sparing neither age nor sex." Neither rich nor poor can claim any right to be exempt from a tax to which all are invited to assess themselves according to their means, and from which all will benefit, in varying degrees, according to their needs. When a sudden emergency occurs, and the rich man injured in a street accident requires that aid which would come too late if he were to wait to be conveyed to his house or to the private nursing home, the doors of the hospital are open to him, and he may be carried through them side by side with some nameless

to the wards for infirm and insane women. My evidence described how lunatics were confined in the same ward as patients suffering from chronic complaints such as cancer, under the charge of a pauper attendant who had not a particle of feeling, and who, in fact, appeared to be possessed with that inborn love of cruelty which seems innate in some strange natures." In explanation of the "pauper attendant," it must be mentioned that in the workhouse described the nurses for the sick in the infirmary were neither more nor less than inmates of the able-bodied women's ward, who were there usually because they were irreclaimable drunkards, and who were rewarded for their services as nurses by being allowed half a pint of beer at their supper. woman fastened to a bedstead by means of a sheet, which was bound tightly round her confining her arms. The sun streamed on her face through the blindless window and her lips were parched and dry. The word 'water' sent me back in all haste to the ward, where I desired the woman who was taking Mrs. E.'s place to give me some at once. This she refused to do, saying that she did not dare do anything without orders." In the end the writer, from whose reminiscences we are quoting, herself discovered a mug and a tap and took the responsibility of giving a drink of water to the suffering patient. She was thanked with gratitude, but whether the person thus treated was supposed to be out of her mind or was being punished for insubordination as a patient, she did not discover. Referring again to the stick above mentioned, she writes, "On inquiry as to its use from the decrepit old creature who slept next to Mrs. E., I was told in a frightened whisper that the pain she suffered sometimes at nights made her groan aloud, but she always tried hard to prevent it, as so sure as she made a sound the stick was brought down upon her at once to make her silent." Once after seeing an old woman knocked down by Mrs. E. the lady visitor complained to the matron, but was told that nothing could be done while the system prevailed by which the so-called "nurses" were chosen from the inmates of the able-bodied women's ward. On the only occasion on which a complaint to the master was ventured upon his reply was a threat that the guardians would

STATISTICS OF HOSPITAL WORK IN LONDON DURING THE YEAR 1907.

TABLE I.—GENERAL HOSPITALS.*

N.B.—The figures referring to out-patients in these Tables represent the number of VISITS *paid by out-patients—*NOT *the* NUMBER *of out-patients.*

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
aring Cross	1,496	2,182	830	1,132	119	128	218	75,030	9,668
nch	393	929	285	590	280	45	37	14,305	1,733
man	661	1,592	450	879	247	117	138	74,221	3,695
at Northern Central	1,268	2,282	665	1,160	99	152	244	75,744	7,089
s	1,625	8,733	7,076		832	508	689	425,541	78,721
apstead General	314	670	—	—	—	48	47	12,074	851
an	217	839	153	675	20	32	25	38,037	196
sington General	238	233	32	175	10	8	13	40,885	3,106
s College	1,457	2,473	654	1,388	160	195	42	48,384	6,681
lon	6,500	14,288	5,323	6,370	2,094	745	1,282	570,375	17,224
on Homœopathic	452	1,105	401	439	37	81	78	51,520	1,592
ips' Memorial Homœopathic	50	140	38	93	5	6	6	2,858	17
on Temperance	785	1,322	305	819	32	94	120	74,666	18,692
politan	1,225	1,933	522	1,076	242	106	529	124,136	14,088
nay	325	640	117	433	109	38	32	47,699	8,402
Hospital and Royal Kent Dispensary...	271	381	138	217	7	21	25	63,958	9,606
al Anti-Vivisection	—	235	24	201	4	15	10	21,775	1,271
-West London	471	215	23	177	14	—	6	47,992	7,845
[illegible]	574	1,371	—	—	44	75	127	77,992	18,128
Free	1,371	2,109	1,798		256	157	174	103,088	25,365
orge's	2,275	4,459	3,699		1,217	335	372	106,795	15,951
hn and Elizabeth	325	374	338		—	90	25	—	—
hn's, Lewisham	235	254	45	150	—	37	22	1,788	—
ary's	2,546	3,902	1,293	1,945	353	289	334	133,207	23,902
en's Hospital Society	1,636	2,414	504	511	—	265	189	88,338	20,657
Middlesex Hosp. and Convalescent Home	2,757	3,918	2,732		1,104	276	316	134,445	—
enham, Prince of Wales'	639	1,258	220	725	21	93	168	81,346	—
ersity College	2,167	3,615	1,224	1,598	441	249	305	135,925	36,556
hamstow, &c.	157	456	36	380	7	20	33	12,000	2,278
dsworth, Bolingbroke	303	640	113	422	—	33	72	30,966	5,758
t Ham	601	588	76	323	16	57	45	104,053	12,016
st London	1,224	2,495	2,341		178	154	292	125,157	19,646
estminster	1,625	2,626	2,390		410	177	245	75,552	9,710
	£36,155	70,687	13,510	21,728	8,358	4,655	6,289	3,019,710	381,420
stimated to supply omissions	—	—	7,934	13,116	125	—	—	—	39,494
Total	£36,185	70,687	21,434	34,844	8,483	4,655	6,289	3,019,710	420,914

* We reproduce the term "General Hospitals" as employed by the Council of the Metropolitan Hospital Sunday Fund.

n exception was made in favour of Mrs. E., the cruel nurse above referred to, in that she received a wage in addition to her half-pint of beer, in consideration of the arduous nature of her services. She is described as a strong, muscular person, and she "kept a strong stick always at hand in case any patient should be noisy or refractory. If patients became violent her usual practice was to drag them by their hair down the passage and throw them headlong into the padded room. In one of my visits there on a very hot day it chanced that Mrs. E. had been called away for some reason and the ward, for the time, was left in charge of the wretched old pauper assistant. Hearing loud cries and moans proceeding from the passage as I entered, I threw open the door at once and became aware of a young

the names of Charles Dickens and of Charles Reade will occur readily in such a connection, but further elaboration of our point hardly seems to be needed. Times change, and those who change with them by the irresistible laws of progress feel that the improved circumstances are necessary and right. If, then, poor-rates have been allowed to rise in order that workhouses may meet the claims of a newer age, surely we may appeal to our readers to tax themselves voluntarily upon a higher scale than once was asked of them, in order that our hospitals may ever conform to the spirit of that age. If in the humane treatment of the suffering poor those hospitals have set an example to the world, assuredly they have a claim upon us all for help that they may hold their own in their path of progress.

TABLE III.—COTTAGE HOSPITALS AND CONVALESCENT HOMES.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
Metropolitan Convalescent (Walton)	439	2,889	1,479	1,319	—	84	7	—	—
" " (Broadstairs)	287	1,869	716	1,086	—	67	—	—	—
" " (Bexhill)	531	2,757	404	2,297	—	56	—	—	—
All Saints' " (Eastbourne)	433	3,297	1,014	2,136	—	120	3	—	—
" " (St. Leonards-on-Sea)	27	229	103	126	—	—	—	—	—
Ascot Priory "	81	237	—	—	—	19	—	123	—
Brentwood "	11	140	20	120	—	—	—	—	—
Charing Cross Hospital Convalescent	70	457	—	454	—	17	—	—	—
Chelsea Hospital for Women Convalescent	49	320	318		—	—	2	—	—
Deptford Medical Mission "	18	147	—	—	—	—	—	—	—
Friendly Societies' Convalescent "	93	1,045	—	—	—	8	—	—	—
Mrs. Gladstone's "	98	766	267	498	—	—	1	—	—
Hahnemann "	33	204	153	7	—	30	—	4,616	—
Hanwell "	22	220	—	—	—	—	—	—	—
Hastings Fairlight "	23	169	—	—	—	17	1	—	—
Hendon, Ossulston Home	62	132	—	—	—	—	—	—	—
Herbert Convalescent	33	516	253	203	—	48	—	—	—
Herne Bay (Baldwin-Brown) Convalescent	65	345	—	—	—	—	—	—	—
Homœopathic Hospital "	22	197	—	—	—	—	—	—	—
Hemel Hempstead "	35	390	74	294	—	12	—	—	—
Incorporated Morley and Bevan "	—	—	—	—	—	—	—	—	—
Mrs. Kitto's "	54	345	—	—	—	—	1	—	—
London, Hospital "	78	150	62	88	—	9	—	—	—
Mary Wardell "	65	162	—	—	—	—	—	—	—
Police Seaside Home	49	792	—	—	—	8	—	—	—
St. Andrew's (Clewer) Convalescent	108	539	119	—	—	74	8	—	—
" (Folkestone) "	195	2,169	—	—	—	85	2	—	—
St. John's Home for Convalescent Children	27	346	—	—	—	72	—	—	—
St. Joseph's Convalescent	65	540	402	109	—	34	4	—	—
St. Leonards-on-Sea "	108	876	—	—	—	36	—	—	—
St. Mary's "	24	111	—	—	—	7	—	—	—
St. Michael's "	38	352	—	—	—	—	—	—	—
Seaside "	184	—	—	—	—	—	—	—	—
Acton Cottage Hospital	81	196	—	—	—	—	—	11,654	—
Beckenham Cottage Hospital	87	256	31	201	—	15	9	1,500	79
Billingsgate Medical Mission	54	72	13	53	3	—	3	13,256	—
Blackheath and Charlton Cottage Hospital	87	190	8	161	15	12	8	5,073	50
Bromley, Kent "	135	398	68	289	8	18	23	—	346
Bushey Heath "	39	138	12	98	4	15	4	740	10
Canning Town "	71	279	146	—	—	21	25	17,571	—
Chislehurst, Sidcup, &c., "	71	—	—	—	—	—	—	—	—
Coldash "	25	65	27	16	—	20	—	—	—
East Ham "	81	165	3	137	—	10	15	15,838	—
Eltham "	60	239	40	185	3	15	9	—	25
Enfield "	70	287	22	242	—	21	15	—	19
Epsom and Ewell "	55	132	15	106	15	7	2	—	7
Hounslow "	43	184	31	128	2	13	12	2,814	368
Kingston, Victoria Hospital "	76	233	41	162	12	13	15	—	22
Livingstone Dartford Cottage Hospital	100	177	26	129	—	12	10	—	54
Mildmay	—	230	51	120	—	28	18	—	—
Reigate and Redhill "	119	310	18	264	—	17	5	—	63
Sidcup "	43	181	34	126	1	6	10	319	41
Sutton "	—	155	139		—	—	7	—	—
Tilbury (Passmore Edwards) Cottage Hospital	54	—	—	—	—	—	—	—	—
Willesden	119	302	289		—	20	13	—	946
Wimbledon "	60	208	22	163	—	10	11	107	75
Wimbledon, South, "	60	267	27	213	—	6	17	—	240
Wood Green "	57	435	—	—	—	—	26	—	—
Woolwich and Plumstead "	54	143	39	77	—	9	10	—	87
Hospital for Invalid Gentlewomen "	108	177	9	149	—	15	2	—	—
St. Saviour's Hospital and Nursing Home	103	132	36	81	—	16	3	—	—
National Sanatorium for Consumption	108	400	401		—	83	1	—	—
Invalid Asylum	39	238	65	140	11	17	5	—	—
Fir's Home	33	57	21	—	—	20	16	—	—
St. Catherine's Home	27	46	31	—	—	12	3	—	—
Friedenheim Home for the Dying	341	136	17	3	—	32	107	—	—
Free Home for Dying	130	112	31	1	—	13	67	—	—
St. Luke's House	130	106	5	—	1	25	90	—	—
Santa Claus Home	67	42	22	1	2	20	—	—	—
Royal Mineral Water Hospital	54	1,185	1,151	18	—	123	1	—	—
Winifred House	62	46	—	—	—	18	—	—	—
Eversfield	—	429	—	—	—	47	7	2,151	—
Alexandra Home	—	23	—	—	—	—	—	—	—
Estimated to supply omissions	£5,350 —	31,079 1,732	7,128 3,885	12,000 7,393	77 —	1,532 241	598 54	75,772 3,000	2,432 1,000
Total	£6,350	32,811	11,013	19,393	77	1,773	652	78,772	3,432

exclude the visitor from the wards if she made a fuss. Of the care of children in the same institution we read in another passage, "There were usually two children sleeping in each bed, and to show what a total want of care and supervision there was here, I have actually seen once a little child with measles in the same bed with another with a broken leg."

We have quoted enough to illustrate our point, and we repeat that we do not suggest that horrors of the kind described existed in the hospitals of 1866, the date to which these memories of a bygone workhouse refer. We do, however, invite our readers to try to imagine such things taking place in the present day in London, and to realize that the change which renders them impossible is due to an altered and developed public opinion which demands that the poor in workhouse infirmary and in hospital alike shall be treated in a manner undreamt of less than fifty years ago. We might corroborate the above account by reference to many writers of fact or of fiction, and

TABLE II.—SPECIAL HOSPITALS.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
City of London for Diseases of Chest	812	964	907		—	132	57	64,592	—
Hospital for Consumption...	3,012	1,445	1,085		273	306	95	47,971	—
Mount Vernon Consumption	1,284	1,424	—	—	—	202	18	14,171	—
Royal Hospital for Diseases of Chest	669	716	640		33	66	69	26,046	—
Royal National Hospital for Consumption...	325	748	663	—	—	149	17	—	—
Alexandra Hospital for Hip Disease	444	188	22	60	1	99	6	1,327	—
Banstead Surgical Home	28	36	9	10	8	17	—	—	—
Barnet Home Hospital	52	41	20	7	—	14	—	—	—
Belgrave Hospital for Children	228	597	156	247	—	34	101	35,131	787
Cheyne for Incurable "	152	74	1	18	16	50	4	—	—
East Lond. Hosp for "	936	2,040	504	951	367	114	397	91,748	4,692
Evelina Hosp. for Sick "	271	—	—	—	—	—	—	—	—
Home for Incurable "	87	55	11	—	—	43	1	—	—
Home for Sick "	152	790	—	—	141	—	5	3,861	—
Hospital for Sick "	1,083	3,175	1,206	1,088	435	199	435	110,272	804
Kensington Hosp. for "	114	167	151		—	9	10	21,593	705
North-East. Hosp. for "	964	1,482	243	925	34	123	221	69,357	5,000
Paddington Green for "	352	717	590		180	40	87	53,927	1,560
Royal Waterloo for "	195	496	113	275	13	55	46	38,072	—
St. Mary's for "	309	646	118	452	—	35	41	20,040	14,229
St. Monica's for "	89	114	88		—	20	6	—	—
Victoria Hospital for "	748	1,152	387	575	617	87	148	66,711	1,503
Victoria Home, Margate	43	150	62	24	—	48	4	—	—
Hospital for Hip Disease	49	67	—	29	—	36	—	—	—
British Lying-in	89	602	600	—	31	25	2	7,424	—
City of London Lying-in	200	676	—	672	10	24	4	27,778	—
Clapham Maternity	46	509	489		—	20	—	17,101	—
East-End Mothers' Home...	87	433	431		—	18	2	12,573	—
General Lying-in	56	758	—	—	—	—	5	19,890	—
Queen Charlotte's Lying-in	658	1,701	1,692		144	—	9	19,960	65
Chelsea Hospital for Women	341	710	671		209	34	10	9,297	—
Hospital for Women	498	924	274	567	61	60	21	14,927	—
Grosvenor Hosp. for Women and Children...	195	373	130	210	—	22	6	15,876	—
New Hospital for Women	347	777	—	—	—	54	28	31,037	—
Samaritan Free	471	672	115	455	112	46	8	15,882	—
Cancer	—	804	676		55	87	113	15,809	—
Middlesex (Cancer Wing)	293	191	—	—	—	42	93	319	—
London Fever	325	852	—	790	62	50	12	—	—
Gordon for Fistula	43	311	12	298	—	20	1	5,328	—
St. Mark's "	276	563	45	446	—	39	9	5,985	—
National for Diseases of Heart, &c.	184	150	133		—	25	16	21,578	—
Female Lock	292	461	421		—	119	3	—	—
Hospital for Epilepsy, &c.	179	212	162		3	39	8	7,504	—
National for the Paralysed, &c.	1,116	867	320	200	25	153	41	44,728	—
West-End for Nervous System	325	415	279	55	22	68	13	21,659	—
Central London Ophthalmic	173	409	399		—	9	1	29,345	605
Royal Eye	303	646	628		—	18	—	84,108	2,035
Royal London Ophthalmic	1,192	2,218	2,124		12	89	5	124,404	2,063
Royal Westminster "	162	785	792		3	14	—	37,171	525
Western "	108	376	250	126	—	7	—	26,410	—
Royal National Orthopædic	119	469	379		—	87	3	9,806	—
Royal Sea Bathing Hospital	260	496	379	38	—	132	15	1,900	—
St. John's Hospital for Diseases of Skin ...	84	193	—	—	—	28	1	37,807	—
Western Skin...	—	—	—	—	—	—	—	8,884	—
St. Peter's for Stone	114	533	513		—	—	20	36,969	—
Central London Throat and Ear	47	564	42	500	3	14	5	46,859	6
Hospital for Diseases of Throat	16	723	43	660	4	13	3	46,579	—
London Throat	27	481	453	—	3	8	—	16,444	—
Royal Ear...	43	412	83	326	—	9	3	13,084	—
Royal Dental	401	—	—	—	—	—	—	53,470	—
National Dental	32	—	—	—	—	—	—	26,957	
	£21,320	38,530	6,540	10,004	2,867	3,251	2,228	1,582,571	34,639
Estimated to supply omissions	—	972	6,866	8,291	270	97	174	41,436	11,864
Total	£21,320	39,502	13,406	18,295	3,137	3,348	2,402	1,624,007	46,503

the names of Charles Dickens and of Charles Reade will occur readily in such a connexion, but further elaboration of our point hardly seems to be needed. Times change, and those who change with them by the irresistible laws of *progress* feel that the improved circumstances are necessary and right. If, then, poor-rates have been allowed to rise in order that workhouses may meet the claims of a newer age, surely we may appeal to our readers to tax themselves voluntarily upon a higher scale than once was asked of them, in order that our hospitals may ever conform to the spirit of that age. If in the humane treatment of the suffering poor those hospitals have set an example to the world, assuredly they have a claim upon us all for help that they may hold their own in their path of progress.

TABLE III.—COTTAGE HOSPITALS AND CONVALESCENT HOMES.

Name of hospital.	Hospital Sunday Fund award. £	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
Metropolitan Convalescent (Walton)	439	2,889	1,479	1,319	—	84	7	—	—
„ „ (Broadstairs) ...	287	1,869	716	1,086	—	67	—	—	—
„ „ (Bexhill)	531	2,757	404	2,297	—	56	—	—	—
All Saints' „ (Eastbourne)	433	3,297	1,014	2,136	—	120	3	—	—
„ „ (St. Leonards-on-Sea)	27	229	103	126	—	—	—	—	—
Ascot Priory „	81	237	—	—	—	19	—	123	—
Brentwood „	11	140	20	120	—	—	—	—	—
Charing Cross Hospital Convalescent	70	457	—	454	—	17	—	—	—
Chelsea Hospital for Women Convalescent ...	49	320	318		—	—	2	—	—
Deptford Medical Mission „ ...	18	147	—	—	—	—	—	—	—
Friendly Societies' Convalescent „	93	1,045	—	—	—	8	—	—	—
Mrs. Gladstone's „	98	766	267	498	—	—	1	—	—
Hahnemann „	33	204	153	7	—	30	—	4,616	—
Hanwell „	22	220	—	—	—	—	—	—	—
Hastings Fairlight „	28	169	—	—	—	17	1	—	—
Hendon, Ossulston Home	62	132	—	—	—	—	—	—	—
Herbert Convalescent	33	516	253	203	—	48	—	—	—
Herne Bay (Baldwin-Brown) Convalescent ...	65	345	—	—	—	—	—	—	—
Homœopathic Hospital „ ...	22	197	—	—	—	—	—	—	—
Hemel Hempstead „ ...	35	390	74	294	—	12	—	—	—
Incorporated Morley and Bevan „ ...	—	—	—	—	—	—	—	—	—
Mrs. Kitto's „ ...	54	345	—	—	—	—	1	—	—
London, Hospital „ ...	78	150	62	88	—	9	—	—	—
Mary Wardell „ ...	65	162	—	—	—	—	—	—	—
Police Seaside Home	49	792	—	—	—	8	—	—	—
St. Andrew's (Clewer) Convalescent	108	539	119	—	—	74	8	—	—
„ (Folkestone) „	195	2,169	—	—	—	85	2	—	—
St. John's Home for Convalescent Children ...	27	346	—	—	—	72	—	—	—
St. Joseph's Convalescent	65	540	402	109	—	34	4	—	—
St. Leonards-on-Sea „	108	876	—	—	—	36	—	—	—
St. Mary's „	24	111	—	—	—	7	—	—	—
St. Michael's „	38	352	—	—	—	—	—	—	—
Seaside „	184	—	—	—	—	—	—	—	—
Acton Cottage Hospital	81	196	—	—	—	—	—	11,654	—
Beckenham Cottage Hospital	87	256	31	201	—	15	9	1,500	79
Billingsgate Medical Mission	54	72	13	53	3	—	3	13,2[illegible]6	—
Blackheath and Charlton Cottage Hospital ...	87	190	8	161	15	12	8	5,073	50
Bromley, Kent „ ...	135	398	68	289	8	18	23	—	346
Bushey Heath „ ...	39	138	12	98	4	15	4	740	10
Canning Town „ ...	71	279	146	—	—	21	25	17,571	—
Chislehurst, Sidcup, &c., „ ...	71	—	—	—	—	—	—	—	—
Coldash „ ...	25	65	27	16	—	20	—	—	—
East Ham „ ...	81	165	3	137	—	10	15	15,838	—
Eltham „ ...	60	239	40	185	3	15	9	—	25
Enfield „ ...	70	287	22	242	—	21	15	—	19
Epsom and Ewell „ ...	55	132	15	106	15	7	2	—	7
Hounslow „ ...	43	184	31	128	2	13	12	2,814	363
Kingston, Victoria Hospital... „	76	233	41	162	12	13	15	—	22
Livingstone Dartford Cottage Hospital	100	177	26	129	—	12	10	—	54
Mildmay	—	230	51	120	—	28	18	—	—
Reigate and Redhill „	119	310	18	264	—	17	5	—	63
Sidcup „	43	181	34	126	1	6	10	319	41
„ ... ... Sutton „	—	155	139		—	—	7	—	—
Tilbury (Passmore Edwards) Cottage Hospital	54	—	—	—	—		—	—	—
Willesden	119	302	289		—	20	13	—	946
Wimbledon „ ...	60	208	22	163	—	10	11	107	75
Wimbledon, South, „ ...	60	267	27	213	—	6	17	—	240
Wood Green „ ...	57	435	—	—	—	—	26	—	—
Woolwich and Plumstead „ ...	54	143	39	77	—	9	10	—	87
Hospital for Invalid Gentlewomen	108	177	9	149	—	15	2	—	—
St. Saviour's Hospital and Nursing Home ...	108	132	36	81	—	16	3	—	—
National Sanatorium for Consumption	108	400	401		—	83	1	—	—
Invalid Asylum	39	238	65	140	11	17	5	—	—
Fir's Home	38	57	21	—	—	20	16	—	—
St. Catherine's Home	27	46	31	—	—	12	3	—	—
Friedenheim Home for the Dying	341	136	17	3	—	32	107	—	—
Free Home for Dying	130	112	31	1	—	13	67	—	—
St. Luke's House	130	106	5	—	1	25	90	—	—
Santa Claus Home	67	42	22	1	2	20	—	—	—
Royal Mineral Water Hospital	54	1,185	1,151	18	—	123	1	—	—
Winifred House...	62	46	—	—	—	18	—	—	—
Eversfield	—	429	—	—	—	47	7	2,151	—
Alexandra Home	—	23	—	—	—	—	—	—	—
Estimated to supply omissions	£5,350 —	31,079 1,732	7,128 3,885	12,000 7,398	77 —	1,532 241	598 54	75,772 3,000	2,432 1,000
Total	£6,350	32,811	11,013	19,398	77	1,773	652	78,772	3,432

A Year for Special Effort.

If, however, we appeal for renewed and increased generosity in order that the hospitals may not fall behind in efficiency, we cannot altogether ignore those special circumstances which at this particular time may render it difficult for some donors to *exercise* their liberality on a scale such as they *would desire*. The past few years have not been marked by any such prosperity in the City of London as would enable us to expect any growth of the Metropolitan Hospital Sunday Fund traceable to it. Complaints as to the condition of "trade" are heard alike from those whose dealings of various kinds are on a large scale and from those whose business is retail, and poverty is pleaded, we are aware, in answer to many appeals, and is pleaded, moreover, by others whose incomes are not directly dependent upon commerce. It is for this reason that we insist most earnestly upon the necessity for all to give in the present year, 1908, to the fullest extent of their powers, supplementing the charity of others who may be absolutely compelled to diminish their annual contributions to charity, and exercising to the full that self-denial which renders the gift more worthy. The contribution to the Metropolitan Hospital Sunday Fund is *not one which can be left to stand over until* "better times." We make no comparison with the different *objects upon which the money might otherwise be bestowed*, but we would point to the ceaseless and *pressing need of the sick and suffering*.

TABLE IV.—DISPENSARIES.

Name of dispensary.	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	£141	61,841
Blackfriars "	22	6,997
Bloomsbury "	16	5,570
Brixton, &c.	54	22,530
Brompton Provident	18	2,764
Buxton Street	22	—
Camberwell Provident	87	95,332
Camden Town "	16	6,943
Chelsea, Brompton, and Belgrave	49	1,793
Chelsea Provident	11	2,673
Child's Hill "	17	—
City	60	21,991
Clapham General and Provident	26	11,992
Deptford Medical Mission	28	10,456
Eastern	41	37,316
East Dulwich Provident	47	21,839
Farringdon General	48	7,556
Finsbury	54	30,517
Forest Hill Provident	41	5,421
Greenwich "	37	16,578
Hackney "	20	1,600
Hampstead "	67	41,393
Holloway and North Islington	36	1,931
Islington	65	55,909
Islington Medical Mission	43	—
Kennington and Vauxhall Provident	15	4,868
Kensal Town Provident	17	4,452
Kentish Town Medical Mission...	—	4,300
Kilburn, Maida Vale, and St. John's Wood	40	3,836
Kilburn Provident Medical Institution... ...	54	22,181
London	18	—
London Medical Mission	131	14,736
Margaret-street, for Consumption	27	6,995
Metropolitan	69	—
Mildway Medical Mission	24	5,656
Notting Hill Provident	11	6,922
Paddington "	33	8,200
Public	43	8,479
Queen Adelaide's	31	17,511
Royal General	29	—
Royal Pimlico Provident	52	25,186
Royal South London...	50	11,296
St. George's Hanover-square	29	4,806
St. John's Wood Provident	53	18,564
St. Marylebone General	49	8,534
St. Pancras and Northern	35	—
St. Pancras Medical Mission	23	—
South Lambeth, Stockwell, & North Brixton	43	1,626
Stamford Hill, Stoke Newington	65	24,389
Tower Hamlets	51	—
Walworth Provident	18	7,540
Wandsworth Common Provident	16	6,918
Westbourne Provident...	20	11,708
Western	74	24,084
Western General	120	16,621
Westminster General	48	21,572
Whitechapel Provident	38	24,946
Woolwich "	31	—
	£2,423	786,365
Estimated to supply omissions	—	143,572
Total	£2,423	929,937

We are all hoping for "better times," the hospitals no less than the generous persons who help them, but whereas the member of the public can curtail his expenses, the hospitals cannot do so without abandoning the very motive and aim of their existence. It is true that an individual institution may close a ward or two and reduce its expenditure upon that portion of its building to the upkeep of its fabric, but what of those who should be filling the beds in those wards? Their sickness and suffering are not postponed until a place is ready in which they may be alleviated. The operation which might save *limb or life cannot stand over* till trade improves and money flows more freely in its accustomed channels. The poor cannot wait to be healed, because to them sound health means the condition in which they can work to support themselves and their families, and that which incapacitates them from work means misery, loss of home, and of all that renders life tolerable to them. The life of the worker, which might be saved by prompt assistance, may be lost if he has to wait before it can be rendered. Therefore the hospitals cannot wait.

TABLE V.—NURSING ASSOCIATIONS.

Name of association.	Hospital Sunday Fund award.	Visits.
Belvedere and Abbey Wood	£20	5,315
Brixton	31	12,699
Central St. Pancras	23	9,167
Chelsea and Pimlico	31	17,064
Hackney	30	18,742
Hammersmith and Fulham	71	28,033
Hampstead	33	9,973
Isleworth	15	9,015
Kensington	69	29,033
Kilburn	15	5,834
Kingston	48	16,274
Metropolitan (Bloomsbury)	76	32,530
St. Olave's (Bermondsey)	46	24,362
Paddington and Marylebone	54	25,192
Plaistow	122	115,043
Rotherhithe	15	6,227
Shoreditch...	97	44,678
Silvertown	23	7,924
South London (Battersea)	79	45,351
Tottenham	18	—
Southwark...	31	19,406
South Wimbledon...	35	—
Westminster	31	16,662
Woolwich, Plumstead, and Charlton	56	18,000
East London	244	93,945
North London	84	33,918
London District	459	236,758
	£1,856	881,155
Estimated to supply omissions...	—	25,000
Total	£1,856	906,155

Sick and sound alike should sympathise.

With this urgency of the sick man's need *those* should sympathise especially who have endured sickness, or have undergone operations at *the* surgeon's hands, and who are asked to realize what it means to lie idle in a humble home waiting *for* relief until a bed is vacant in a hospital, *or to be* referred from one institution to another because the wards of the first are full. These surely will not let their gifts to the hospitals wait until a year *or two* hence their pockets may be fuller. To the *sound* in health the contribution to the hospital *should* be a thankoffering increasing year by year *in order* that others may attain that which the giver enjoys. That which many spend light-heartedly in a day or two, or, indeed, in a few hours of enjoyment, perhaps in health-giving exercise, perhaps in visiting the music-hall or theatre, perhaps in luxuries of food and drink, might, if saved, augment their gift to the Metropolitan Hospital Sunday Fund far beyond its usual dimensions. It would be well saved by such self-denial; it would be well spent in helping to restore to health those to whom bodily activity means the power to work; to whom rest from pressing anxiety and suffering is perhaps the highest material pleasure for which they can hope. If we suggest that for many there is no need to do more than to tax their luxuries in order to give, we do so in the consciousness that the expenditure upon luxuries and upon pleasures of all kinds is very great in modern London, and in the belief that we are asking for no overwhelming sacrifice on the part of those to whom we address ourselves. In particular we would urge generosity, even at the expense of private pleasure, upon the young; not only upon little children, but upon those who have quitted childhood, and, in the ardour of youth, pursue their own pleasures, perhaps forgetful of the pain of others. Many of these may only need to be reminded, and their hearts will prompt them to be liberal.

TABLE SHOWING THE RESULTS OF COLLECTIONS SINCE THE COMMENCEMENT OF THE FUND.

Year.	Totals.	Donations.	Year.	Totals.	Donations.
1873	£27,700	£1844	1891	£45,330	£9019
1874	29,936	1505	1892	41,512	4429
1875	26,396	1424	1893	39,290	3652
1876	27,042	1339	1894	43,679	7717
1877	25,082	947	1895	60,361	21,990
1878	24,904	1199	1896	46,035	5533
1879	26,501	1120	1897	41,003	3607
1880	30,423	1567	1898	40,397	3864
1881	31,856	1638	1899	53,504	15,310
1882	34,146	2106	1900	51,993	16,137
1883	33,935	1980	1901	54,731	18,343
1884	39,329	6410	1902	62,669	16,307
1885	34,320	2555	1903	64,975	15,766
1886	40,399	4817	1904	63,054	15,143
1887	40,607	4130	1905	78,379	29,425
1888	40,379	3030	1906	63,075	18,441
1889	41,744	3482	1907	78,651	35,865
1890	42,814	3991			

1884. Including £4500 from the International Health Exhibition.

1885, 1886, 1887. Including three donations of £1000 each from Dr. James Wakley, Editor of THE LANCET.

1891. Including £5000 from the late Duke of Cleveland, &c.

1894. Including a legacy of £5000 (less duty) from the executors of the late Mr. W. J. Whitaker.

1895. Including £10,000 from Messrs. Barnato and friends; £3400 from the Stock Exchange; £1000 from Lord Iveagh; and £1000 from Mr. J. B. Robinson.

From 1891 to 1896 Sir Saville Crossley, Bart., P.C., M.P., gave an annual donation of £1000, and since has divided his contribution between this Fund and King Edward's Fund.

1897. Jubilee year. H.R.H. the Prince of Wales started a Special Fund for Hospitals.

1899. Including £10,000 from Mr. George Herring, and £1050 from Mr. J. Lane Densham.

1900. Including a further £10,000 from Mr. George Herring, £1090 from Mr. Thos. King, and "F. H." £1000.

1901. Including a further £10,000 from Mr. George Herring, and £4000 from Sir F. Cook, Bart., M.P.

1902. Including a further £11,575 from Mr. George Herring, and £1000 from Mr. Charles Morrison.

1903. Their Majesties the King and Queen, with most of the other Members of the Royal Family, attended at St. Paul's Cathedral. Including a further £12,302 from Mr. George Herring.

1904. Including a further £11,926 from Mr. George Herring.

1905. Including a further £12,400 from Mr. George Herring, and £12,500 from the executors of Mr. F. W. Cook.

1906. Including a further £11,000 from Mr. George Herring and £3000 on account of the legacy bequeathed by Mr. Herbert Lloyd.

1907. Including £30,000 from the late Mr. George Herring's estate, and a second instalment of £3000 on account of the bequest of the late Mr. Herbert Lloyd.

The Hospitals a gift from those who have to those who have not.

In conclusion, the contributions asked for by the Metropolitan Hospital Sunday Fund are charitable gifts essentially. The conditions and disabilities attaching to the receipt of poor law relief, and a certain confusion in some minds between benefits bestowed in the spirit of charity, rightly so-called, and the official doling out of funds obtained by levying a rate, have caused a certain stigma to attach to the term "charity." Those, moreover, on whom rates are levied pay a compulsory tax at the bidding of the State to be distributed by the local authority, and even the most benevolent and public-spirited among us can hardly claim that we pay our taxes with cheerful willingness, or that in doing so we are filled with kindly thoughts for those upon whom the moneys so levied will ultimately be expended. The gift of charity to the hospitals is upon a different footing; it blesses him who gives no less than it benefits its recipient, because the only compulsion upon the giver is imposed by his conscience and by his kind heart when he thinks of others in less fortunate circumstances than his own. All this might be ordered otherwise. The hospitals might be made into institutions maintained out of the rates, governed by the county or borough council, supervised by a Government department, enmeshed in red tape, and with no need to apply to the charitable for assistance. Who would be benefited by such a change? Would the sick and injured needing prompt and effective help? That is inconceivable, for now the hospitals are under the rule of those who have made them what they are, and who in their zeal on behalf of their fellows have built and organized them voluntarily for the rendering of such help and for no other object. Would the charitable gain? They would lose the object of their charity; the occasion to think of others would be gone, and the need for self-denial in order to increase their gifts would no longer be felt. On the other hand, the necessity to maintain the hospitals would still be there, imposed by statute, and enforced by the rate collector, so that the mention of the word

SUMMARY OF TABLES.

—	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
General Hospitals	£35,185	70,657	21,494	34,844	8,483	4,635	6,269	3,019,710	420,914
Special Hospitals	21,320	39,502	13,405	18,295	3,137	3,348	2,402	1,624,007	46,503
Cottage Hospitals and Convalescent Homes	6,350	32,811	11,013	19,398	77	1,773	652	78,772	3,432
Dispensaries	2,423	—	—	—	—	—	—	929,937	—
Nursing Associations	1,855	—	—	—	—	—	—	906,155	—
Total	£68,134	143,000	45,913	72,537	11,697	9,756	9,323	6,558,581	470,849

"hospital," or of the poor man's need in sickness, would but call to mind the irksome burden of a tax from which bygone generations were free. To those who now by their self-denying generosity maintain the hospitals, the law-imposed necessity to give would afford no pecuniary relief. In the first place they ask for none, and in the second the hospitals maintained out of the rates would be institutions so much more costly than those now aided by charity that the sum at present required annually can hardly guide us in estimating the amount of the rate imagined.

For we must consider to whom such hospitals would be open? The large class which now has free education provided for, its children occurs to us at once in making such a calculation. To any of this class when his case is urgent such an institution now opens its doors. Would the rate-maintained civic hospital be compelled so to discriminate, or would it be likely to do so, having no question of the proper application of its limited income to consider? Would it not be open to all on demand and for all kinds of treatment, just as the public elementary day schools are open to the children of all? The rate in such circumstances would indeed be a heavy one; and would it be economically administered? Under the present system hospitals, by strict economy and by living from hand to mouth, maintain the high standard of efficiency which modern science demands, and we may here point out that the promotion and maintenance of economy and efficiency have been among the principal objects kept in view and insisted upon by those distributing the Metropolitan Hospital Sunday Fund ever since its inception. The hospitals might not fall below their present standard under the eye of a State department, but would that eye be all-seeing where the economical expenditure of easily obtained funds and the getting of "value for money" were concerned? The answer to this question may be obtained, in part, at least, by the perusal of reports recently published of official inquiries, and of legal proceedings, which have revealed reckless extravagance and in some cases alleged corruption in the administration of funds entrusted to elective local authorities. No, the generous public who maintain the hospitals of London by their free gifts, whether great or small, have nothing to gain from the municipalisation of the hospitals.

If, however, the hospitals of London are to retain their high position among the great charities of the world, the outpouring of benevolence must be liberal, and the collection of the Metropolitan Hospital Sunday Fund places before all an opportunity for the rendering of that outpouring universal. None need shrink from giving because his gift must be but small, or because he shrinks from seeing it contrasted with that of his richer neighbour. As the hospitals open their doors to all alike regardless of differences of religion or of race, provided only that poverty and suffering qualify them to receive, so the appeal is made to all whose circumstances enable them to give, however small the gift may be, and whatever may be the creed or the nationality of the giver.

The appeal is made to the vast population of London and of its neighbourhood; to the loyal subjects of His Majesty King Edward VII., who himself has not only instituted another hospital fund which bears his name, but who with his beloved Queen and with the members of his family has ever shown a deep and sympathetic interest in the financial welfare and in the working efficiency of the hospitals. It is made also to those strangers in blood who sojourn among us for longer or shorter periods and whether they may do so for business or for pleasure. It is made to the rich and to those who by comparison with the "rich" reckon themselves "poor." In responding to it, in giving and in reminding others to give, these will all be united by common goodwill, each doing his utmost in a common cause.

> "Pity and need
> Make all flesh kin. There is no caste in blood
> Which runneth of one hue, nor caste in tears
> Which trickle salt with all."

THE METROPOLITAN HOSPITAL SUNDAY FUND.

Receipts and payments for the year ending October 31st, 1907.

Dr. 1907.	£	s.	d.	£	s.	d.
To Balance at Bank of England, 1st Nov., 1906	1,100	10	3			
,, Balance, Petty Cash	24	13	8			
				1,125	3	11
,, Collections made at Sundry Places of Worship	42,786	8	11			
,, Collections at Schools	32	2	7			
,, Donations	1,060	4	1			
,, Dividend on £224 15s. 2d. Consols	5	7	0			
,, Interest on Balance of Legacy from the late Herbert Lloyd (less Tax)	136	19	7			
,, Dividend on £45,346 1s. 3d. 2½ Consols, per Executors to the Will of W. A. Guesdon, deceased	1,133	13	0			
,, George Herring's Estate— On account of Interest	30,000	0	0			
,, William Vokins' Bequest— Dividend on £22,590 16s. 3d. Consols (less Tax)	409	5	0			
,, Interest on Deposit	87	10	7			
,, Legacies— Herbert Lloyd, second instalment of legacy of £10,000	3,000	0	0			
				78,651	10	9
				£79,776	14	8

1907.	£	s.	d.	Cr. £	s.	d.
By Awards to 147 Hospitals	62,501	13	8			
,, Awards to 12 Institutions	1,213	6	8			
,, Awards to 57 Dispensaries	2,420	13	8			
,, Awards to 27 Nursing Associations... ...	1,856	5	0			
,, Surgical Appliances	4,077	11	5			
				72,069	10	5
,, Rent	251	5	0			
,, Insurance	0	7	6			
,, Furniture and Repairs	16	0	1			
,, Fuel, Lighting, and Office Cleaning ...	37	0	5			
,, Printing and Stationery	258	16	8			
,, Postages	144	10	8			
,, Telephone	11	5	10			
,, Advertisements	152	14	0			
,, Salaries and Gratuities	1,393	19	2			
,, Pension to late Secretary	250	0	0			
,, Special Appeal...	1,014	2	4			
,, Sundries	7	16	10			
,, Law Charges	81	1	4			
				3,618	19	10
,, Balance at Bank of England, 31st Oct., 1907...	4,079	5	3			
,, Petty Cash	8	19	2			
				4,088	4	5
				£79,776	14	8

Audited and found correct, this 21st day of November, 1907.

(Signed) W. H. PANNELL & Co., *Chartered Accountants*, 13, Basinghall-street, E.C.

⁎⁎ In the preparation of the voluminous statistics of hospital work which have been here digested and exhibited in collected form (and which have been specially supplied to us in response to our applications, and are quite independent of any returns made to the Metropolitan Hospital Sunday Fund Committee), we have been greatly indebted to a large number of secretaries and other officers of the various medical charities of the metropolis. To them we desire, as on many previous occasions, to tender our sincere thanks.—ED. L.

Printed and Published by the REGISTERED PROPRIETORS of THE LANCET, at 423, Strand, W.C., and Nos. 1 and 2, Bedford-street, Strand, adjoining.

MEDICINE AND THE LAW.

Insanity a Bar to Valid Marriage.

THE case of Jackson v. Jackson recently heard by Mr. Justice Bargrave Deane in the Divorce Court was a wife's suit for nullity of marriage on the ground that at the time of the marriage her husband was suffering from paranoia or delusional insanity and incapable of contracting marriage. The facts were as follows: Catherine R. Jackson, *née* Macfarlane, went through a ceremony of marriage on Oct. 8th, 1904, with H. P. M. Jackson, at St. Luke's Church, Kensington. There was a child born on Oct. 25th, 1905. It appeared that since the respondent had returned from the South African war in 1902 he had been subject to delusions, the main ones being that there was a conspiracy or plot to injure him, that his letters were being tampered with, that he was impotent, and that he constantly heard voices. It was not disputed that he went through the ceremony as an ordinary individual would have done, but during the honeymoon in Italy the delusions gradually became more marked, and he also then alleged that his wife had been unfaithful. On March 18th, 1905, Mr. Jackson was certified as insane and was removed to a private asylum. On behalf of the respondent it was urged that the delusions were not such as to affect his capacity to enter into a contract of marriage. Mr. Justice Bargrave Deane in giving judgment said that there were a number of cases which must guide the court but that each case must in a great measure depend upon its own facts. The principle running through the cases was to the effect that the court must take into consideration the nature of the alleged unsoundness of mind and see whether it was of sudden or progressive growth. When the unsoundness of mind had been proved to be progressive a decree had been granted. In the present case it was, therefore, necessary to see how far back the insanity could be traced. The law was clearly laid down in Hunter v. Edney by the late Lord Hannen who said: "The question which I have to determine is not whether the respondent was aware that she was going through the ceremony of marriage, but whether she was *incapable of understanding* the nature of the contract she was entering into, free from the influence of morbid delusions upon the subject." His lordship referred to the evidence of the respondent's conduct on his honeymoon in Italy, and continued: While on the continent the respondent complained that he was being watched, spied upon, and that signals and signs were being made about him, and that everybody was laughing at him owing to his impotency. That last delusion was a very material one because the evidence showed that it had existed before marriage as well. It was possible for a man to have such an opinion before marriage but there could be no such delusion after. In the present case the delusion continued, for even after the petitioner had informed him that she was *enceinte* he still expressed the belief that he was impotent. After their return to England the disease had so progressed that the respondent was certified as insane and had been pronounced incurable. The eminent alienists who had been called agreed that "paranoia" was incurable and a disease of progressive growth. One of the experts had expressed as his opinion that the disease in the present case dated from the return of the respondent from South Africa. It was therefore for the court to determine whether the respondent was on Oct. 8th, 1904, capable of understanding the nature of the contract he was entering into, free from the influence of morbid delusions upon the subject. The burden of proof was on the petitioner, and in his opinion she had succeeded and had clearly established that the respondent's disease was of gradual growth and had existed long before the parties became acquainted. Therefore there would be a decree *nisi* of nullity. It may be added that insanity or want of reason is a bar to marriage on the ground that without consent there can be no contract, and that where there is no reason there is no power of consent. Mere weakness of understanding is not enough, but there must be proof of incapacity to enter into the contract, the extent of the incapacity being a question of fact to be proved by evidence which to a large extent in such cases must be that of medical experts. A person on recovering sanity may institute proceedings to set aside a marriage entered into when *non compos mentis*, and if insanity at the time of the formation of the contract is proved the marriage will be declared void.

Casual Employment under the Workmen's Compensation Act.

A point of importance under the Workmen's Compensation Act, 1905, made clear by a recent decision of the Court of Appeal, is worth noting by medical practitioners. The wife of a member of the Stock Exchange employed a man to clean windows at their residence and he, while doing so, fell and was killed. The claim against the stockbroker made by those dependent on the deceased workman was resisted on the ground that he was a person casually employed only and not one of those so employed who are entitled to the benefit of the Act which does not include under the term workman "a person whose employment is of a casual nature and who is employed otherwise than for the purposes of the employer's trade or business." The Master of the Rolls in giving judgment pointed out that the employer, a stockbroker, could not be held to be employing a man for the purpose of his business who was only engaged to clean the windows at his private house and said that he interpreted the Act as intended to benefit a workman employed by another for the purpose of that person's trade or business in spite of the fact that such employment was casual only but that it was essential that the employment should be for the purpose indicated. A good many people, no doubt, insure against accidents happening to those whom they may employ casually, with a view to protecting themselves in the event of claims being made by window cleaners, charwomen, luggage porters, and the like. If they do employ such persons but not for any trade or business purpose, having perhaps no trade or business, they are not legally liable for accidents happening to them. At the same time it must be remembered that claims, though baseless, may yet be made, that the employer may have some difficulty in resisting them, and that he may require legal aid in doing so. It may therefore be prudent to insure in respect of accidents that may happen to a casual workman, although there may be no apparent liability, in order to have the assistance of the insurance company in defeating a possible claim which in no case should succeed. In the instance referred to above compensation had been allowed in the county court and in the Court of Appeal the employer had the assistance of very eminent counsel. This question of accidents to casual workmen affects medical men in particular, because the premises in which they exercise their profession are usually part of, or connected with, their homes, and the casual workman may be engaged at one moment upon work for the purposes of the trade or business of his employer and at another upon something quite independent of it, and the employer's liability will vary accordingly. For example, a window cleaner falling and injuring himself when cleaning the window of a consulting room can apparently enforce a right to compensation which he would not possess after a similar accident due to cleaning the window of the drawing-room, and we can imagine a severe legal fight on the point under discussion arising out of such an accident if the man fell while cleaning the dining-room window, and if it was proved that that apartment was sometimes used for meals and sometimes as a waiting room for patients. The necessity for insuring against accidents to casual workmen is therefore one peculiarly affecting medical practitioners.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 12th, 1830.

PROTRACTION OF VEGETABLE LIFE.

THE following extraordinary instance of the lengthened period of time during which the vital principle of vegetables may be preserved, was mentioned by Mr. Houlton in the course of his introductory lecture as professor of botany, at the last meeting of the Medico Botanical Society. A bulbous root, which was found in the hands of an Egyptian mummy, and in which situation it had very probably been for more than two thousand years, germinated on exposure to the atmosphere, though, when discovered, it was apparently in a state of perfect dryness. The root was subsequently put into the ground, where it grew with readiness and vigour.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between May 29th and June 5th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscribers of Seventeen Pounds Thirteen Shillings and Sixpence.

Westminster Division of the British Medical Association, per Harvey Hillard. (Full list of names will be published next week.)

Subscribers of Ten Guineas.

Clinical Society of Manchester, per Gordon Fitzgerald.

Subscriber of Five Pounds.

Anonymous.

Subscribers of Four Pounds Twelve Shillings.

Blackburn Division of the British Medical Association, per Howard Henry, the amount being made up as follows:—

Half-a-Guinea from—

J. T. Ballantyne.
M. Bannister.
E. D. S. Heyliger.
F. W. Taylor.

Ten Shillings from—

John Barr
William Moir

Five Shillings from—

Dr. Arnold.
Andrew Baxter.
Dr. Geddie.
Howard Henry.
T. T. Maclin.

Half-a-crown from—

J. W. Miller.
E. M. Payne.

Subscribers of Four Pounds Five Shillings.

Wigan Medical Society, from some of the Members, per John Blair.

Subscribers of Three Pounds Three Shillings and Sixpence.

Portsmouth District of Southern Branch of the British Medical Association, per B. H. Mumby.

Subscriber of Two Guineas.

John W. Stephens, Cardigan.

Subscribers of One and a Half Guineas.

Wolverhampton Branch of the British Medical Association, per J. Alfred Codd, being half a guinea each from the following—

Anon.
J. T. Harthill.
H. Malet.

Subscribers of One Guinea.

Thomas Baker, Waterlooville, Cosham, Hants.
R. A. Cowie, Ebbw Vale, Mon.
Mark Jackson, Purley.
Edgar Haydon, Newton Abbot.
G. W. Homan and F. W. Rowland, Lichfield.
James Hussey, Farnham, Surrey.
E. R. Williams, Carmarthen.
S. Wallace, Cardiff.

Subscriber of Half-a-Guinea.

W. Macphail, Coatbridge, N.B.

Subscriber of Ten Shillings.

John Jones, Dolgelly.

Subscriber of Five Shillings.

William Cash Reed, Liverpool.

Subscriber of Half-a-Crown.

A Friend.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

THE annual general meeting of this society was held on May 14th at 11, Chandos-street, *Cavendish-square*, Dr. G. FIELDING BLANDFORD being in the chair. Seven directors were elected to fill the vacancies in the court. A cordial vote of thanks was passed to the editors of the medical journals who from time to time publish notices of the society.

The report for 1907, which was adopted, stated that during the past year 11 new members were elected and ten died. The society consists at the present time of one honorary member, 144 life, and 144 paying members, making a total of 289, which, considering the number of medical men who are eligible for membership, is but a very small proportion. The invested funds amount to £99,260, from which is derived in interest the sum of £3118 2s. 5d.; £433 0s. 3d. were received in subscriptions and donations. Amongst the annuitants of the charity—namely, 49 widows and 17 orphans—the sum of £3151 10s. was distributed. 43 widows received £50 each, four £40, one £30, and one £25 with £10 extra at Christmas, and each orphan £12 and £3 extra at Christmas.

The Copeland Fund is a special fund which enables the society to grant to any widow or orphan already in receipt of the society's ordinary relief, extraordinary relief in special circumstances of unusual distress such as blindness, paralysis, insanity, severe disabling accident, or grave permanent disease, and to continue such extra relief in the case of orphans beyond the age of 16 or 18 years (at which, under the society's existing by-laws, the ordinary relief ceases) for such further period as the court of directors may think fit.

During the year two widows in receipt of grants died. One, whose husband had paid in subscriptions £26 3s., had received £490, and the other, whose husband had paid in annual subscriptions £27 6s., had received £2824: she had been in receipt of grants since 1866. Two widows were elected during the year, and on Dec. 31st there were 48 widows and 16 orphans in receipt of grants. One of the widows has been on the books since 1854 and has already received over £2060. Relief is only granted to the widows and orphans of deceased members who have paid their annual subscription for three years or who are life members. During the year nearly 50 letters were received from widows of medical men, who, in many instances, had been left practically penniless, asking for relief, but this had to be refused as their husbands had not been members of the society.

The directors cannot too strongly urge upon the members of the medical profession, especially the younger ones, the desirability of joining the society. Membership is open to any registered practitioner who at the time of his election is resident within a 20-mile radius from Charing Cross. Should any member remove beyond the limits of the society he nevertheless continues to be a member.

The annual subscription is 2 guineas; every member who has paid this sum for 25 years becomes a member for life. Life membership may also be obtained by the payment of one sum, varying with the age of the applicant. Further particulars and application forms may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, London, W.

The meeting closed with a vote of thanks to the chairman.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8731 births and 3958 deaths were registered during the week ending June 6th. The annual rate of mortality in these towns, which had declined in the four preceding weeks from 14·2 to 12·6 per 1000, rose slightly to 12·7 in the week under notice. During the first ten weeks of the current quarter the annual death-rate in these towns averaged only 14·4 per 1000, and in London during the same period it did not exceed 14·0. The lowest annual death-rates in the 76 towns during the week under notice were 6·4 in Walsall, 6·9 in Handsworth (Staffs), 7·4 in Aston Manor, 7·9 in Bury, 8·5 in Tynemouth, 8·9 in Reading, and 9·0 in Hornsey; the rates in the other towns ranged upwards to 17·4 in Grimsby, 17·7 in Stockton-on-Tees, 19·4 in Stockport, 19·9 in Hanley, 20·9 in Merthyr Tydfil, and 24·5 in Swansea. The death-rate in London during the week did not exceed 11·6. The 3958 deaths in the 76 towns during the week showed a further decline of 185 from the numbers returned in the four preceding weeks, and included but 354 which were referred to the principal epidemic diseases, against numbers declining from 445 during the nine preceding weeks; of these 354 deaths, 103 resulted from whooping-cough, 83 from measles, 67 from diarrhœa, 45 from diphtheria, 33 from scarlet fever, and 23 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to an annual rate of 1·1 per 1000, against 1·2 per 1000 during the nine preceding weeks; the rate from these diseases in London did not exceed 0·9 per 1000. No death from any of these epidemic diseases was registered last week in Willesden, Walsall, Huddersfield, St. Helen's, or in nine other smaller towns; the annual death-rates from these diseases ranged upwards, however, to 2·6 in Reading, 2·7 in Preston, 3·4 in Norwich and in Merthyr Tydfil, and 3·9 in Stockton-on-Tees. The fatal cases of whooping-cough in the 76 towns, which had been 114 and 75 in the two preceding weeks, rose to 103 last week; this disease caused the highest death-rates, 1·5 in Smethwick and in Burnley, 1·7 in Barrow-in-Furness, and 2·2 in Warrington. The deaths from measles, which had been 100 and 72 in the two preceding weeks, rose to 83 in the week under notice, the highest rates being 1·3 in Preston, 1·6 in Rhondda, and 2·9 in Stockton-on-Tees. The 67 deaths from diarrhœa was the highest weekly number this year; the mortality was highest in Hanley, Middlesbrough, and Merthyr Tydfil. Of the 45 deaths from diphtheria, which showed an increase upon the numbers registered in the five previous weeks, 13 occurred in London and three in Salford. The 33 deaths from scarlet fever showed a slight decline compared with the numbers in the two preceding weeks and included ten in London and two in Tottenham, in Reading, in Grimsby, in Liverpool, and in Bradford. Three of the 23 deaths from "fever" were registered in London and three in Norwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined from 2938 to 2753 in the five preceding weeks, further declined to 2648 on June 6th; 291 new cases were admitted to these hospitals during the week under notice, against 330 and 334 in the two preceding weeks. The deaths in London referred to pneumonia and to other diseases of the respiratory organs, which had steadily declined from 301 to 147 in the six preceding weeks, further fell to 132 during the week under notice, and were 37 below the corrected number in the corresponding week of the five years 1903–07. Only nine deaths were directly referred to influenza in London, showing a marked decline from recent weekly numbers. The causes of 39, or 1·0 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Leeds, Manchester and Salford, Bristol, West Ham, Bradford, and in 52 other smaller towns; eight uncertified causes of death were, however, registered in Liverpool and seven in Birmingham.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·4 and 15·5 per 1000 in the two preceding weeks, declined to 14·3 in the week ending June 6th. During the first ten weeks of the current quarter the annual death-rate in these eight towns averaged 17·1 per 1000, and exceeded by no less than 2·7 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 12·3 in Leith and 13·3 in Paisley to 16·0 in Greenock and 16·7 in Dundee. The 503 deaths in the eight towns (against 542 and 546 in the two preceding weeks) included 30 which were referred to the principal epidemic diseases, showing a further decline upon the low numbers returned in the two preceding weeks; of these 30 deaths, 10 resulted from whooping-cough, five from measles, five from diphtheria, five from diarrhœa, three from "fever," and two from scarlet fever, but not one from small-pox. These 30 deaths were equal to an annual rate of 0·9 per 1000, the mean rate from the same diseases in the 76 English towns during the same week being 1·1. The 10 deaths from whooping-cough showed a decrease compared with those in the two preceding weeks; five of these deaths were registered in Edinburgh and three in Dundee. The five fatal cases of measles were the lowest in any week during the present year; four were returned in Glasgow and one in Edinburgh. The five deaths from diphtheria, equal to the number returned last week, belonged to Glasgow. The five deaths from diarrhœa were considerably below the average; two cases were registered in Dundee. Of the two deaths from scarlet fever, one occurred in Glasgow and one in Paisley. One death from enteric fever was registered in Edinburgh, and one from enteric fever and one from cerebro-spinal meningitis in Glasgow.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 22·2 and 15·9 per 1000 in the two preceding weeks, rose to 16·5 in the week ending June 6th, and with the exception of last week was lower than in any previous week of this year. During the first ten weeks of the current quarter the death-rate in Dublin averaged 21·3 per 1000; the mean rate during the same period did not exceed 14·0 in London and 15·8 in Edinburgh. The 125 deaths of Dublin residents registered during the week under notice showed an increase of five over the number returned in the previous week, and included nine which were referred to the principal epidemic diseases, against four and six in the two preceding weeks. These nine deaths were equal to an annual rate of 1·2 per 1000, the rate during the week from the same causes being 0·9 in London and 1·2 in Edinburgh. Of the nine deaths from these epidemic diseases in Dublin, three resulted from measles, two from diphtheria, and one from scarlet fever, one from whooping-cough, one from "fever," and one from diarrhœa, but not one from small-pox. The 125 deaths from all causes in the city during the week under notice included 26 of infants under one year of age and 28 of persons aged upwards of 60 years, the deaths of elderly persons being considerably fewer than in any previous week of this year. Four inquest cases and two deaths from violence were registered, and 61, or 48·8 per cent., of the deaths occurred in public institutions. The causes of all but four of the deaths during the week were duly certified. The causes of all but three of the 1068 deaths in London were also duly certified, but more than 5 per cent. of the causes of death in Edinburgh were uncertified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Inspector-General of Hospitals and Fleets William Edward Breton has been placed on the Retired List at his own request (dated May 30th, 1908); and Surgeon Alexander Cameron Renwick has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated June 4th, 1908).

In accordance with the provisions of His Majesty's Order in Council of August 11th, 1903, Surgeon John Shipsey has been allowed to withdraw from the Royal Navy with a gratuity.

The following appointments are notified:—Surgeons: P. D. Ramsay to Gibraltar Hospital and Aloysius F. Fleming to the *Vivid* for Royal Naval Barracks.

ARMY MEDICAL SERVICE.

Surgeon-General Richard H. Quill is placed on retired pay (dated June 8th, 1908).

DEATHS IN THE SERVICES.

Surgeon-General Sir James Arthur Hanbury, A.M.S., K.C.B., on June 3rd at Bournemouth in his 77th year. He entered the service in 1853 as assistant-surgeon, was made surgeon in 1863, surgeon-major in 1873, deputy-surgeon-general in 1881, and surgeon-general in 1887. He retired in 1892. He served in the Afghan war of 1878–80, and took part with the expedition into the Bazar Valley (mentioned in despatches), accompanied Sir Frederick Roberts in the march to Candahar, and was present at the battle of Candahar (mentioned in despatches, C.B., medal with clasp, and bronze decoration). Served in the Egyptian war of 1882 as principal medical officer, and was present at the battle of Tel-el-Kebir (twice mentioned in despatches, K.C.B., medal with clasp, 2nd class of the Medjidieh, and Khedive's Star).

THE BRITISH RED CROSS SOCIETY.

Notice is given in the *London Gazette* that a petition of Her Majesty the Queen and the Right Honourable Lord Rothschild, G.C.V.O., praying for the grant of a Charter for the incorporation of the British Red Cross Society, has been presented to His Majesty in Council; and His Majesty having referred the petition to a committee of the Lords of the Council, further notice is given that all petitions for or against such grant should be sent to the Privy Council Office on or before the sixth day of July, 1908.

NAVAL VICTUALLING.

The *Times* of June 9th in an article from a correspondent states that: "The victualling and canteen arrangements introduced into the navy on October 1st last have, after six months' working, proved an unqualified success as far as the men are concerned, and it is claimed that they will save no less than £500,000 on the first year's working. ...... Those who took a leading part in bringing about these reforms hoped that not only would a saving be effected for the men of the navy but also for the State; so far this latter hope has met with disappointment. ...... There is, however, a more unsatisfactory feature from the national point of view. Tea, which is admittedly of very fine quality, can be purchased for 1*s.* per pound, sugar at 2*d.*, and fresh meat at 4*d.*; this is creating an unhealthy market for these articles at the home ports, and though there

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between May 29th and June 5th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscribers of Seventeen Pounds Thirteen Shillings and Sixpence.

Westminster Division of the British Medical Association, per Harvey Hilliard. (Full list of names will be published next week.)

Subscribers of Ten Guineas.

Clinical Society of Manchester, per Gordon Fitzgerald.

Subscriber of Five Pounds.

Anonymous.

Subscribers of Four Pounds Twelve Shillings.

Blackburn Division of the British Medical Association, per Howard Henry, the amount being made up as follows:—

Half-a-Guinea from—

J. T. Ballantyne.
M. Bannister.
E. D. S. Heyliger.
F. W. Taylor.

Ten Shillings from—

John Barr
William Moir

Five Shillings from—

Dr. Arnold.
Andrew Baxter.
Dr. Geddie.
Howard Henry.
T. T. Maclin.

Half-a-crown from—

J. W. Miller.
E. M. Payne.

Subscribers of Four Pounds Five Shillings.

Wigan Medical Society, from some of the Members, per John Blair.

Subscribers of Three Pounds Three Shillings and Sixpence.

Portsmouth District of Southern Branch of the British Medical Association, per B. H. Mumby.

Subscriber of Two Guineas.

John W. Stephens, Cardigan.

Subscribers of One and a Half Guineas.

Wolverhampton Branch of the British Medical Association, per J. Alfred Codd, being half a guinea each from the following—

Anon.
J. T. Harthill.
H. Malet.

Subscribers of One Guinea.

Thomas Baker, Waterlooville, Cosham, Hants.
R. A. Cowie, Ebbw Vale, Mon.
Mark Jackson, Purley.
Edgar Haydon, Newton Abbot.
G. W. Homan and F. W. Rowland, Lichfield.
James Hussey, Farnham, Surrey.
E. R. Williams, Carmarthen.
S. Wallace, Cardiff.

Subscriber of Half-a-Guinea.

W. Macphail, Coatbridge, N.B.

Subscriber of Ten Shillings.

John Jones, Dolgelly.

Subscriber of Five Shillings.

William Cash Reed, Liverpool.

Subscriber of Half-a-Crown.

A Friend.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

THE annual general meeting of this society was held on May 14th at 11, Chandos-street, Cavendish-square, Dr. G. FIELDING BLANDFORD being in the chair. Seven directors were elected to fill the vacancies in the court. A cordial vote of thanks was passed to the editors of the medical journals who from time to time publish notices of the society.

The report for 1907, which was adopted, stated that during the past year 11 new members were elected and ten died. The society consists at the present time of one honorary member, 144 life, and 144 paying members, making a total of 289, which, considering the number of medical men who are eligible for membership, is but a very small proportion. The invested funds amount to £99,260, from which is derived in interest the sum of £3118 2s. 5d.; £433 0s. 3d. were received in subscriptions and donations. Amongst the annuitants of the charity—namely, 49 widows and 17 orphans—the sum of £3151 10s. was distributed. 43 widows received £50 each, four £40, one £30, and one £25 with £10 extra at Christmas, and each orphan £12 and £3 extra at Christmas.

The Copeland Fund is a special fund which enables the society to grant to any widow or orphan already in receipt of the society's ordinary relief, extraordinary relief in special circumstances of unusual distress such as blindness, paralysis, insanity, severe disabling accident, or grave permanent disease, and to continue such extra relief in the case of orphans beyond the age of 16 or 18 years (at which, under the society's existing by-laws, the ordinary relief ceases) for such further period as the court of directors may think fit.

During the year two widows in receipt of grants died. One, whose husband had paid in subscriptions £26 3s., had received £490, and the other, whose husband had paid in annual subscriptions £27 6s., had received £2324: she had been in receipt of grants since 1866. Two widows were elected during the year, and on Dec. 31st there were 48 widows and 16 orphans in receipt of grants. One of the widows has been on the books since 1854 and has already received over £2060. Relief is only granted to the widows and orphans of deceased members who have paid their annual subscription for three years or who are life members. During the year nearly 50 letters were received from widows of medical men, who, in many instances, had been left practically penniless, asking for relief, but this had to be refused as their husbands had not been members of the society.

The directors cannot too strongly urge upon the members of the medical profession, especially the younger ones, the desirability of joining the society. Membership is open to any registered practitioner who at the time of his election is resident within a 20-mile radius from Charing Cross. Should any member remove beyond the limits of the society he nevertheless continues to be a member.

The annual subscription is 2 guineas; every member who has paid this sum for 25 years becomes a member for life. Life membership may also be obtained by the payment of one sum, varying with the age of the applicant. Further particulars and application forms may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, London, W.

The meeting closed with a vote of thanks to the chairman.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8731 births and 3958 deaths were registered during the week ending June 6th. The annual rate of mortality in these towns, which had declined in the four preceding weeks from 14·2 to 12·6 per 1000, rose slightly to 12·7 in the week under notice. During the first ten weeks of the current quarter the annual death-rate in these towns averaged only 14·4 per 1000, and in London during the same period it did not exceed 14·0. The lowest annual death-rates in the 76 towns during the week under notice were 6·4 in Walsall, 6·9 in Handsworth (Staffs), 7·4 in Aston Manor, 7·9 in Bury, 8·5 in Tynemouth, 8·9 in Reading, and 9·0 in Hornsey; the rates in the other towns ranged upwards to 17·4 in Grimsby, 17·7 in Stockton-on-Tees, 19·4 in Stockport, 19·9 in Hanley, 20·9 in Merthyr Tydfil, and 24·5 in Swansea. The death-rate in London during the week did not exceed 11·6. The 3958 deaths in the 76 towns during the week showed a further decline of 185 from the numbers returned in the four preceding weeks, and included but 354 which were referred to the principal epidemic diseases, against numbers declining from 445 during the nine preceding weeks; of these 354 deaths, 103 resulted from whooping-cough, 83 from measles, 67 from diarrhœa, 45 from diphtheria, 33 from scarlet fever, and 23 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to an annual rate of 1·1 per 1000, against 1·2 per 1000 during the nine preceding weeks; the rate from these diseases in London did not exceed 0·9 per 1000. No death from any of these epidemic diseases was registered last week in Willesden, Walsall, Huddersfield, St. Helen's, or in nine other smaller towns; the annual death-rates from these diseases ranged upwards, however, to 2·6 in Reading, 2·7 in Preston, 3·4 in Norwich and in Merthyr Tydfil, and 3·9 in Stockton-on-Tees. The fatal cases of whooping-cough in the 76 towns, which had been 114 and 75 in the two preceding weeks, rose to 103 last week; this disease caused the highest death-rates, 1·5 in Smethwick and in Burnley, 1·7 in Barrow-in-Furness, and 2·2 in Warrington. The deaths from measles, which had been 100 and 72 in the two preceding weeks, rose to 83 in the week under notice, the highest rates being 1·3 in Preston, 1·6 in Rhondda, and 2·9 in Stockton-on-Tees. The 67 deaths from diarrhœa was the highest weekly number this surgeon, and unfortunately died a short time after an operation performed to relieve a necessarily fatal disease. The operator attended and after giving evidence expressed his surprise that an inquest had been held on the case; but Mr. Troutbeck is reported to have said: "That it was the opinion of all coroners in England that if an operation was a material part of the cause of death an inquest must be held," and he further stated that "it was impossible to dissociate the operation entirely from this woman's death." What is meant exactly by "a material part of the cause of death" might furnish matter for a very nice argument, but it would be interesting to know if all the coroners in England agree with Mr. Troutbeck in his sweeping definition that it is a material part of the cause of death when it cannot be dissociated from the cause of death. If they do, it is perhaps fortunate for the public that they do not act up to their opinion.

In nearly all cases where deaths follow after operations it would be impossible to dissociate the operation entirely from the cause of death, so that it would practically mean the holding of an inquest on every death after an operation. If such a course were adopted it would be a fatal bar to all progressive surgery, and it is shocking to contemplate the probable effect it would have in increasing the sum of human misery. Few operations would be performed where any risk was involved, and palliative operations would rarely, if ever, be done. Great enough in all conscience is he worry and anxiety that every surgeon has to undergo after a serious operation, and to have superadded to it the knowledge that if the result is unfortunate he will be required to justify all the details of the operation before a dozen gnorant jurors, presided over by a coroner possibly in this respect equally ignorant, is a prospect that few surgeons could view with equanimity.

I am, Sir, yours faithfully,
MAJOR GREENWOOD, M.D. Brux., LL.B.,
Barrister-at-Law.
June 5th, 1908.

THE GRAND DUCAL HESSIAN STATE AND THE ST. GEORGE'S-NAUHEIM INSTITUTE.

To the Editor of THE LANCET.

SIR,—There have recently appeared in the lay press notices relating to an injunction which was by consent granted against this institute at the suit of the Hessian Government. As such notices in their abbreviated form and in the absence of an explanation are calculated to cause an entirely erroneous impression regarding an institution of which, in conjunction with my colleague, Mr. W. de Marchot Hill, I am in charge, I ask of your courtesy to insert this letter in your widely read paper. This institute has been under my control for the past few months, and whilst disclaiming any responsibility for the action of the directors before my connexion with the institute I feel that it is due to my colleague, myself, and those of my profession who have so cordially supported me that an explanation of the very misleading paragraphs that have appeared in the leading daily journals should be given. The injunction was, *inter alia*, to restrain the St. George's-Nauheim Institute from representing that they were the agents of the Hessian Government, from using the Hessian arms, from representing their business as a branch of the Government, and from using the name Nauheim without clearly distinguishing the baths of the institute from those of the Government.

From the fact that the injunction was consented to it might be inferred that the St. George's Institute had wrongfully committed all these acts, but as a matter of fact Mr. Cosens Hardy, who represented this institute at the trial, particularly repudiated such a state of affairs and agreed to the injunction because it necessitated absolutely no change in any detail whatsoever in the present conduct of the institute. Mr. McNaughton, K.C., on behalf of the Hessian Government, stated that the directors of the St. George's Institute had claimed that the Nauheim system can cure every malady that flesh is heir to. Although in no way connected with, or responsible for, the statements referred to, I should like to point out that the list of ailments published by the directors of the institute is identical with that published by the Society of Physicians at Bad Nauheim in their prospectus, so that it would appear that the Hessian authorities are complaining of the act of their own Society of Physicians.

Personally, I think most medical men will agree with me in supporting the Hessian Government in their condemnation of this extraordinarily prolific list of diseases. At all events, since taking charge of the institute I have very much curtailed the list of indications. As for many months past the institution has been conducted on methods above reproach and approved by many of the leading physicians and medical journals, this short explanation will suffice to remove any doubts that may have been raised by the reports in the lay press. Trusting that I have not encroached too much on your patience and space,

I am, Sir, yours faithfully,
W. BAIN, M.B., B S. Lond.
George-street, Hanover-square, London, W., May 28th, 1908.

TANSINI METHOD FOR THE CURE OF CANCER OF THE BREAST.

To the Editor of THE LANCET.

SIR,—I have read in THE LANCET of March 28th a critical letter from Mr. W. Sampson Handley about the Tansini method for the cure of cancer of the breast. I do not understand the allusion to the deep band, as by Tansini's method it can be removed more easily than by any other method without extensive dissection, which is to be avoided both from the point of view of the patient and of the technical excellence of the operation. Perhaps on account of the shortness of my note I did not insist sufficiently on what is, for the most part, well known, that even with more radical methods recurrence in the skin is often observed in the immediate neighbourhood of the scar. I have often observed a recurrence in the skin when by the ordinary methods it has not been removed freely enough owing to anxiety to obtain direct union of the wound. It is necessary to remove as much skin as possible; it is especially on this account that Professor Tansini devised his plastic operation, and he was not alone in thinking it necessary to have recourse to such a measure as a remedy for the removal of the skin. Others have proposed to obtain the flap from the skin near the wound left by the operation or to fill this up by transplanting the breast of the opposite side. Professor Tansini has devised a very rational plastic procedure which offers other advantages which I have already mentioned. All surgeons recognise the necessity of extensive removal of the skin and we cannot affirm that it is possible to join the flaps direct if all the skin of the breast has been cut away. If it be objected that the cutting of the flap makes the operation a little more complicated it must be borne in mind that in any case the operation is a very serious one, that relapses are frequent, that as a rule, at least in Italy, patients come to be operated on with the disease advanced, and that the statistics have improved since extensive removal of the skin has been performed. Unless this principle, which is now generally accepted, be abandoned I must persist in recommending the Tansini method as one worthy of being widely known and employed.

I am, Sir, yours faithfully,
Prof. FRANCESCO PURPURA.
Pavia, June 1st, 1908.

THE ADMINISTRATION OF VACCINES BY THE MOUTH.

To the Editor of THE LANCET.

SIR,—Dr. Olive Riviere, in THE LANCET of June 6th, states that it is impossible to prove that tuberculin and other vaccines are absorbed when administered by the mouth in a disease such as pulmonary tuberculosis, as he holds that "in this disease auto-inoculation is continually going on and the opsonic index is continually fluctuating." He therefore asks for proof of absorption in cases of localised disease with a stationary index. I do not agree with his argument or with his conclusion, but gladly supply the proof he requires. Chart 31 (showing indices of 1·3 and 1·4) *in the paper*[1] referred to by Dr. Riviere is an example of the effect of the oral administration of tuberculin in a case of localised infection of glands in which the index had been 0·6 or 0·7 for several days before tuberculin was prescribed. *Chart* 15 is an example of the absorption of staphylococcic vaccine when given by the mouth. In this instance the index fell from may be *no loss to* the Government on the sale of the two former articles the traffic is vicious and will tend to grow unless checked. On meat, however, there must be a loss, as from market quotations the Admiralty *must* be paying from 6*d*. to 7*d*. per pound for it; to retail it at 4*d*. per pound with permission to take it on shore seems to be a mistake. This privilege of taking meat on shore is a very old one and few would like to see it stopped in the case of married men who really require it for their own consumption, but the privilege was never intended to extend into a traffic."

---

[1] Proceedings of the Royal Society of Medicine, Medical Section, vol. i., No. 6, p. 195, April, 1908.

Surgeon-General W. Simson Pratt, C.B., A.M.S., principal medical officer, Southern Command, made his annual inspection of the Devonport Military Hospital and Military Families Hospital on June 2nd. He was accompanied by Lieutenant-Colonel H. G. Hathaway, R.A.M.C., and Colonel W. J. Read Rainsford, C.I.E., R.A.M.C. Surgeon-General Pratt inspected Okehampton Camp (Devon) on June 4th.

Correspondence.

"Audi alteram partem."

AUSTRALIA FOR THE SONS OF PROFESSIONAL MEN.

To the Editor of THE LANCET.

SIR,—It is a good many years since I resided in Great Britain, but even then the problem of "what to do with our boys" pressed heavily upon the parents of the professional classes. The army and navy were closed to those who had no private income, the clerical, legal, medical, and other professions were overstocked, and the openings in commerce were only for those who had money or influential connexions. And everything that I can learn points to an intensification of these conditions at the present day. The position, therefore, of the man who has sons about to leave school must be a very difficult one, when he is face to face with the question of how to give them a satisfactory start in life. It is the hope of being able to do something to answer this question which prompts me to beg for some space in your columns.

For years, many of the sons of professional men have emigrated to the United States or Canada. I come forward with the claim that Australia and New Zealand can offer opportunities superior to either of these two countries to industrious and persevering lads, who are prepared to accept rough and strenuous conditions for the sake of obtaining a competence in later life. I may say at once that there are no openings in our large towns. All the city occupations are filled to overflowing. But the Australian bush is calling for thousands of willing hearts and hands to subdue it and make it fruitful. The wealth of Australia is immense and this is mostly due to the production of wool, wheat, sugar, butter, live stock, and fruit commodities, for which there is a great and growing demand, at prices that are likely to be maintained or increased. Life on the land therefore promises to him who approaches it in a spirit both scientific and practical the opportunity not only for a healthy and natural existence but the possibility of an independence. The glorious climate of Australia is all in its favour. Here there is no long rigorous winter. A man can work and stock graze in the fields all the year round. Much has been said about the Australian droughts, but it is not generally known that there are wide districts where drought is practically unheard of. And the conservation of fodder and the great irrigation schemes which are being carried out will henceforth rob the occasional droughts of much of their terror. In New South Wales there has been only one total failure of the wheat crops in 17 years.

I do not for a moment suggest that lads should be sent out here with some money to take up land for themselves straight away. This would simply spell disaster. What I propose is that the lad who has decided to make Australia his home should adopt one of three courses:—

1. He should enter as a student at one of the Government agricultural colleges, where, for about £30 a year, he will receive a thorough training in scientific and practical farming. The sum quoted includes board and lodging, both of which I can guarantee to be excellent—quite as good as, if not better than, that provided at any English public schools. At the end of his two years' course there he could take up land for himself or spend another year in gaining experience with a practical farmer before launching out for himself.

2. He could be placed, as far as New South Wales is concerned, with a farmer holding high qualifications as a teacher of agriculture, who for £12 a year and his labour would give him a training almost as good as that he could obtain at a college. I am again prepared to guarantee that any lads intrusted to this man would be properly looked after and instructed.

3. The third alternative is that he could go to a Government farm for three months and receive, free of cost, instruction in milking, ploughing, and the care of horses, pigs, &c. At the end of this time his services would be of sufficient value to enable him to be placed with a respectable farmer who would pay him about 10*s*. a week and his board, and would increase his wages gradually to 15*s*. or 20*s*. After an apprenticeship of this kind for a year or two he would be fitted to start on his own account.

These three avenues to the land are open to all and there exists a voluntary organisation here, the Immigration League of Australasia, whose chief object is to welcome new-comers and afford them advice and assistance. The executive committee are prepared to give information about Australia and New Zealand to all who write to them, to arrange for the placing of lads at agricultural colleges or farms, to act generally *in loco parentis* towards them, and to see that they are not taken advantage of in any way. The league numbers among its members some of the leading men of Australia, and their desire is to help in the development of the continent and retain the British emigrant under the flag of Empire.

We say, send your sons to us and we will insure them proper treatment and a fair start. We do not want *ne'er-do-wells* or failures. Experience proves that such do no better here than in the old country. But steady, industrious lads are bound to succeed here and in many cases their parents might be induced to follow them out here and prolong their lives in this incomparable climate. We invite parents to communicate with us at Bull's Chambers, Moore-street, Sydney, Australia, and we will give them full information and send books and maps about Australia and New Zealand and prospectuses of agricultural colleges and schools of mines. Some months' notice is needed to enable a lad to be entered at an agricultural college.

I am, Sir, yours faithfully,

RICHARD ARTHUR, M.D. Edin.,
President, Immigration League of Australasia.

*** It seems to us a grave reflection upon our politicians, all parties alike being referred to, that England, Ireland, and Scotland should offer no advantages, commensurate with those offered by Australia, New Zealand, and Canada, to those who wish to follow agriculture as a career. There are in all three divisions of the United Kingdom large tracts of land—only not regarded as large because of the inevitable comparison with the vast acreage of the colonies mentioned —which would repay farming, at any rate "intensive" farming, but which at present are almost out of cultivation, and these tracts are contiguous to thickly populated cities. That labour and produce are not forthcoming from them upon terms profitable alike to the public, the employer, and the employed is a standing indictment of our rulers. But the home conditions being what they are we can only commend Dr. Arthur's letter to the attention of any of our readers who have sons to bring up.—ED. L.

MR. CORONER TROUTBECK AND DEATHS AFTER OPERATIONS.

To the Editor of THE LANCET.

SIR,—The coroner's office is a very ancient one and has no doubt in its time done useful work in promoting the public welfare. None the less there are not wanting some among us who regard its survival as an anachronism, its machinery cumbrous and antiquated, and think that the public safety might be quite as efficiently protected in a simpler and less expensive manner. If all the coroners in England and Wales were to tread in the footsteps of Mr. Troutbeck it is not unlikely that the number of those holding such views would be much augmented. Last week an inquest was held in South-West London on Gertrude Helen Muirhead, a teacher of music, who was the patient of an eminent London

NOTES UPON HEALTH RESORTS.

SCANDINAVIAN WINTER HEALTH STATIONS.

(BY A SPECIAL COMMISSIONER.)

V.[1]

THE ANTI-TUBERCULOSIS MOVEMENT IN NORWAY AND PUBLIC SANATORIUMS FOR TUBERCULOUS CASES.

No study of Norwegian health stations can be counted satisfactory and complete which neglects to consider the influence and character of the anti-tuberculosis movement. Norway, in spite of its climatic and other advantages, has suffered much from both leprosy and tuberculosis. The former is now rapidly becoming extinct but the latter has until the last decade been steadily increasing.[2] The fact is, Norwegians have been slow to develop that "health conscience" and "hygienic mind" which are essential to the establishment and maintenance of rational and effective prophylactic measures against tuberculosis. Even still, as your Commissioner had abundant opportunities of noting, there is a conspicuous lack of observance of many of those procedures and precautions which experiment and experience have demonstrated to be essential for the successful conduct of an anti-tuberculosis campaign. Promiscuous spitting is prevalent everywhere. Spittoons are provided in nearly all public places but apparently are never or rarely supplied with disinfectants. Railway carriages generally possess open receptacles for sputum. Spittoons are prominent features in institutions of almost every kind. I was astonished to find a spittoon by the bedside of each patient in the leper hospital near Trondhjem. Scandinavians seem to have an innate propensity for indiscriminate expectoration. This is due no doubt in a measure to the catarrhal conditions induced by overheating of dwellings, excessive smoking, and in some instances chewing of tobacco. The old-fashioned homesteads are almost invariably dark and the arrangements for sleeping are still generally devoid of adequate hygienic requisites. Even in modern houses and public establishments of all kinds the temperature during winter is kept so high as to cause considerable discomfort to an ordinary Englishman.

Open-air methods are clearly not so popular in the Norwegian home as in our own country. Until comparatively recently little has been done to prevent the spread of tuberculous infection and even now the geographical and sociological conditions prevailing in Norway make adequate supervision and the conduct of sanitary reforms matters of considerable difficulty.

ANTI-TUBERCULOSIS MEASURES.

I had the privilege of discussing the anti-tuberculosis movement with Dr. M. Holmboe, the Norwegian State Medical Director at Christiania, Dr. Andvord, Dr. Sömme, and other well-known leaders, and of seeing something of the practical efforts which are now being vigorously carried on with the aim of stamping out this scourge of the people. Norwegian medical practitioners have for long recognised that just as leprosy has been almost exterminated by early recognition and segregation of cases, so tuberculosis will have to be dealt with by the wise application of legislative measures and a personal care of the afflicted patients.

Norway's advanced position in regard to its "tuberculosis laws" is due mainly to the energy and wisdom of its chief medical officers, Dr. M. Holmboe of Christiania and Dr. Klaus Hanssen of Bergen. Norway can justly claim to be the first country in the world to adopt legislative enactments for the compulsory notification of "open" tuberculous cases. Since the beginning of 1901 infectious tuberculous cases have been reported to the district medical officer. If the medical attendant's instructions are not complied with the sanitary authority is empowered to remove the patient to the hospital and necessary disinfection is carried out at the public expense. The salutary effects of legislative measures and educational efforts are now becoming manifest. During the three years 1902 to 1904 the mortality from pulmonary tuberculosis was 2·4 per 1000 inhabitants. In the last ten years the mortality has fallen more than 15 per cent., the most marked decrease being in the urban districts. In Bergen, where the influence of Dr. Klaus Hanssen is far-reaching, it is said that the mortality has decreased 50 per cent. in the course of the last 11 years. The death-rate varies greatly in the different districts or amts as they are called In Kristian amt during the years 1901–05 the mortality varied from 1·6 to 2·0 per 1000, while in Finmarken it was as high as 4·5 per 1000.

In interpreting the foregoing statistics it is necessary to bear in mind the influence of social and national movements. During recent years large numbers of the population have taken to town life and factory work. Agricultural pursuits are on the wane. There are now greater facilities for communication between districts and outlying hamlets are less isolated than formerly. A constant stream of emigration of the vigorous and young is going on to America, the sick and feeble being left behind. Many of those who have become victims of tuberculous disease in the United States and elsewhere are returned to their native land. As Dr. Holmboe has well pointed out, it is necessary not to overestimate or to exaggerate the value of the tuberculosis laws, for all too little time has elapsed to allow of a just estimation.[3]

A special committee of the Association of Norwegian Physicians has been formed, with Dr. Holmboe as chairman, to study the anti-tuberculosis measures in Norway and to direct the various forms of effort and enterprise available for the public good. This committee also seeks to link the campaign in Norway with the international movement which is now exercising world-wide influence.

The Norwegian Women's Sanitary Association, which was originally formed to provide for the injured in time of war and recently has done much to relieve the hard lot of the fisher-folk, has now taken up anti-tuberculosis work and such practical assistance promises to be invaluable. The judicious service of this organisation has in chief measure led to the establishment of "pleiehjems," on the introduction of which Norway may be congratulated. A "pleiehjem" is a nursing-home for advanced consumptive cases. These have been established in various districts of Norway and seem to meet admirably, and at comparatively small cost, the needs of a sparsely populated and far-extending country with limited means of communication.[4] "Pleiehjems" have now been established by eight or ten communes and by some five amts. In Christiania and Bergen special wards are provided for consumptives in the State hospitals. The nursing-homes for consumptives have proved a great boon to the country. They are usually small and homely with, as a rule, only from six to ten beds. A trained nurse acts as superintendent and the medical man of the district serves as medical attendant. The initial cost averages about £50 a bed and the expense of maintenance is comparatively small. These homes were primarily intended for the nursing of "open" and advanced cases of pulmonary tuberculosis likely to be dangerous sources of infection. About 300 beds are now available in these institutions. The "pleiehjem" is certainly a Norwegian institution which might well be adopted by other countries and for certain parts of the British Isles and its colonies should be very suitable. If instead of burying funds in stones and marbles and other needless extravagances some such country homes could be established in this land for cases which the ordinary sanatorium cannot or will not take, a great step would have been taken towards the arrest of tuberculosis among our people.

Norwegian physicians and statesmen, through their experience with leprosy—a disease in many ways akin to tuberculosis—are peculiarly well fitted to approach the practical conduct of the anti-tuberculosis movement without undue pessimism and devoid of extravagant and irrational hopes. Their reasonable legislative measures, rational philanthropic endeavours, and practical methods in dealing with tuberculosis all merit high praise and are worthy of serious study.

---

[1] Nos. I., II., III., and IV. were published in THE LANCET of April 25th (p. 1233), May 2nd (p. 1306), 16th (p. 1435), and 30th (p. 1576), 1908, respectively.

[2] J. Sömme: Tuberculosis in Norway and its Sanatoria for Consumption, British Journal of Tuberculosis, October, 1907.

[3] M. Holmboe: "Lungetuberkulosens Bevægelse i Norge, navnlig i de senere aar." Tidsskrift for den Norske Lægeforening, No. 24, Dec. 15th, 1907. Kristiania. Accompanying this article are valuable charts and maps indicating the relative frequency of tuberculosis in the different districts of Norway.

[4] M. Holmboe: "Om Pleiehjem for Tuberkulöse," Kristiania, Alb. Cammermeyers Forlag, 1901.

1·1 to 0·8 immediately after the administration of the vaccine and subsequently rose to 1·5.

I am, Sir, yours faithfully,

Portland-place, W., June 9th, 1908. ARTHUR LATHAM.

A DISCLAIMER.

To the Editor of THE LANCET.

SIR,—A friend of mine who is a dentist has drawn my attention to a pamphlet entitled "The Contemplated Medical Anæsthetists Bill." It is signed by Mr. Robert Marston. In this it is implied that I am to give a demonstration concerned with chloroform for a stake of £5 a side! It appears a grotesque assumption that I should lend myself to such a proceeding, but as the pamphlet has been scattered broadcast I am compelled to say that my name has been used without my permission, and I have no intention of countenancing any demonstration of the kind. I shall be obliged to you for giving publicity to this statement.

I am, Sir, yours faithfully,

Mortimer-street, W., June 9th, 1908. DUDLEY W. BUXTON.

"THE OLDEST INSTITUTION FOR TREATING SICK CHILDREN."

To the Editor of THE LANCET.

SIR,—To prevent misconception such as has occasionally arisen in the past and which might arise again in the future from the recent letter to the papers from the secretary of the Royal Waterloo Hospital, may I ask you to state that the first hospital for sick children to be established in this country was the Hospital for Sick Children, Great Ormond-street. The treatment which the Royal Waterloo Hospital afforded before 1852, the year of the foundation of the Great Ormond-street Hospital, and for many years after that date, was dispensary treatment only. How great was the need of a children's hospital at that time may be gathered from the fact that in January, 1842, out of 2363 persons in all the London hospitals only 26 were children under the age of ten, while of 50,000 person dying annually in the metropolis 21,000 were children under that age.

I am, Sir, yours faithfully,

STEWART JOHNSON, Secretary.

Hospital for Sick Children, Great Ormond-street,
London, W.C., June 9th, 1908.

THE MEDICAL DEFENCE UNION.

To the Editor of THE LANCET.

SIR,—At the annual meeting of the Union at Liverpool on May 21st and reported in your issue of the 30th, the chairman is reported as saying—

> It was suggested that some scheme could be adopted by which the whole risk of adverse verdicts and damages should be taken over, but after serious consideration it was decided that it was not possible, and further that it would be against public and professional polity and likely to lead to serious injury to the profession if not to actions for champerty and maintenance.

Now, as one who has been long of opinion that such a scheme is most desirable, could one be devised which was workable, I am naturally disappointed at the result of the deliberations of the Council, but of course find no fault with their decision, which no doubt has been come to for reasons which to them seem sufficient; but what I think many members will not appreciate is how "serious injury to the profession" is likely to result from such a scheme, or how actions for "champerty" and "maintenance" could follow.

I can quite understand that where an insurance company came in as undertaking to indemnify the Union there might be difficulties in arranging as to the conduct of the defence of an action against a member, and I also quite understand how to the company the vindication of the member's professional reputation would weigh as nothing against a prompt and easy settlement by compromise, but surely such a difficulty could be met by the Union itself instituting a scheme of mutual indemnity insurance amongst its members, a much more business-like and dignified mode of making provision against evil fortune than the usual appeal on behalf of the unfortunate one who finds himself at the end of his plaint, whether the result be favourable or unfavourable to him, face to face with very heavy, in some cases ruinous, costs. The machinery seems to me already to exist in the Union's organisation and I do not think it would beat human wit to adapt it to such a further use.

But what about this exposing the member to the charge of "champerty and maintenance"? Not being a member of the sister profession of law I can have no valid opinion of my own, but from anything I can find readily on the subject I fail to see the ground for such an opinion and how such an action could lie.

Champerty is thus defined: "A combination for an evil purpose—a bargain, either with the plaintiff or defendant, to contribute towards the costs of litigation, the price being a share in the spoil"; and the Oxford English Dictionary gives the following:—"*Champerty*, or more correctly *Champarty*: The alleged proceeding whereby a party, not naturally concerned in a suit, engages to help the plaintiff or defendant to prosecute it, on condition that if it be brought to a successful issue, he is to receive a share of the property in dispute" (Vol. II., C.); and "*Maintenance*: The action of wrongfully aiding and abetting litigation; sustentation of a suit or suitor at law by a party who has no interest in the proceedings or who acts from any improper motive," and under the same rubric Sir F. Pollock is thus quoted: "The wrong of maintenance or aiding a party in litigation without either interest in the suit, or lawful cause of kindred, affection or charity for aiding him: is akin to malicious prosecution and other abuses of legal process ...... actions for maintenance are in modern times rare though possible" (Vol. VI., M).

Again, in the Dictionary of English Law, by Charles Sweet, the following occurs: "*Champarty* or *Champerty* is the act of assisting the plaintiff in a legal proceeding, in which the person giving the assistance has no valuable interest, on an agreement that if the proceeding is successful the proceeds shall be divided between the plaintiff and the assisting person"; and "*Maintenance* ...... in the courts includes Champarty and Embracery, and is also used generally to denote the offence committed by a person, who, having no interest in a suit, maintains or supports either party with money or otherwise to prosecute defendant."

Now if the above quotations are to be taken as an at all correct interpretation of the meaning of such acts they might certainly be used as arguments against the intervention of the Union in any suit either undertaken or defended by a member, but I fail to see how they can be used solely as an argument against the Union embarking in any scheme of indemnification of the kind spoken of. If the Union cannot extend its operations in this direction then it seems to me we must try if we can get some of the insurance companies doing this class of business to extend their operations so as to cover medical men just as chemists and dentists are already covered.

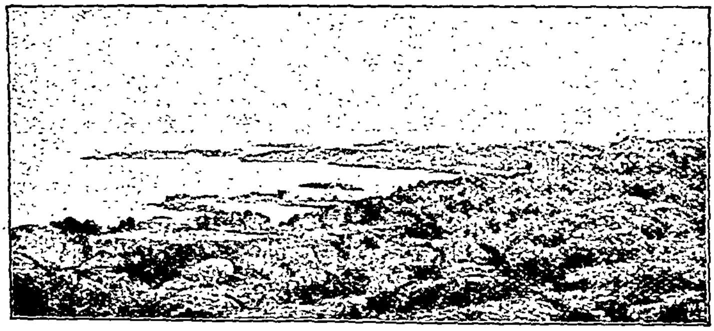
I am, Sir, yours faithfully,

June 1st, 1908. A MEMBER.

THE NATIONAL HEALTH SOCIETY.—The Lord Chief Justice presided last week at Grosvenor House over the thirty-fifth annual meeting of the National Health Society. After the presentation of diplomas to a number of the society's successful students by the Dowager Duchess of Westminster, Lord Alverstone commented on the change which had come over public opinion since the society's formation, for in the past year there had been a great demand for trained and qualified women. Medical men had pointed out the hopeless ignorance of many poor mothers as to the feeding and bringing up of young children and he had had extraordinary evidence of this in cases brought before him as a judge. The work of health visitors was therefore greatly needed. He moved: "That the National Health Society is deserving of all support, a more general and thorough knowledge of hygienic principles as applicable to home life being absolutely essential to the welfare of the community" The Archdeacon of London, in seconding, commended the society for constantly revising its publications and so making them reflect the light of fresh medical knowledge. Professor G. Sims Woodhead said that the profession was more and more engaged in "prevention rather than cure," and that before the elements of hygienic knowledge became known to all people had managed to live but they did not live so long. If as much time and money were devoted to prevention as to cure many of our hospitals might be shut and there would be plenty of funds available for those that remained. The motion was supported by Dr. E. B. Forman and Dr. H. R. Kenwood, and was adopted.

but of such I understand there are only a few, and they are granted no additional privileges or special consideration. The sanatorium receives no philanthropic support and has no legacies. Possibly in the future additional leper funds may be rendered available for its assistance. I was favoured with copies of the annual reports since 1903, exceedingly well arranged and reflecting great credit on the medical director and his staff. A report embodying the results of the first five years is in preparation. It speaks volumes that of the 1030 patients who have been under treatment all have been followed up except four. At Bergen there exist an after-care committee and a polyclinic on anti-tuberculosis dispensary lines which supervise all cases coming from that town and district. It is well to note that systematised work has for long been very successfully employed as a therapeutic agent on lines very similar to those in use at Frimley and elsewhere in this country. Many patients are employed in the construction of paths of various gradients. During the past five years the male patients have made wide paths for a distance of something like 4·3 kilometres. In the winter snow work and wood-chopping engage much time and attention. The women during the summer assist in the care of the paths and the grounds and engage in gardening. During the winter a number of patients are allowed to walk on skis for one and a half hours after breakfast.

FIG. 3.



View from the grounds adjoining the Fredriksværn Hospital for Tuberculous Children.

Dr. Emil Grundt, the medical director, to whom your Commissioner is indebted for much information, states in regard to this important subject of work for the consumptive that during the last five years about 30 per cent. of his patients have been able to engage in work and without any ill-effects having been noted. The cases are, of course, carefully selected. The temperature taken in the rectum is considered the safest guide. If the temperature after work is raised to 38·2° C. or 38·3°, no notice is taken of it provided that after ten minutes it has fallen to 37·8°. The work of this premier public sanatorium of Norway is so excellent that all Norwegians may well be proud of it and should accord to it all the support which it needs as well as deserves.

Reknæs Sanatorium.

This institution, situated near Molde on the northern shores of the Molde Fjord, is a converted leper hospital. It consists of a wooden structure of two storeys, with a central portion and two wings, inclosing a courtyard. The wards are small, accommodating from two to four patients in each. Consumptives of both sexes are received and usually a few beds are reserved for children. The difficulty of access to this sanatorium during winter months prevented your Commissioner visiting it.

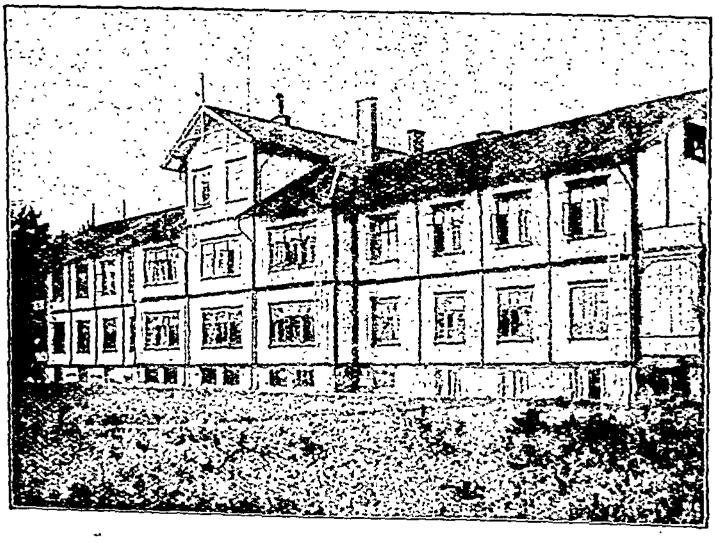
THE CARE OF TUBERCULOUS CHILDREN.

Norway has shown true wisdom in providing for its tuberculous children, and there can be but little doubt that by an extension of means for dealing adequately with tuberculously disposed young subjects lies the best hope for the future. The educational system in Norway is so excellent that there should be but little difficulty in recognising cases in early stages of the disease. By promptly dealing with such, and also by the development of greater domestic hygiene and the separation of children from intimate contact with "open" tuberculous adults, Norway will accomplish much for its "coming race."

The Fredriksværn Hospital for Tuberculous Children.

This is the first seaside sanatorium for tuberculous children established in Norway. It was founded as far back as 1892 by a board, the president of which was the late Queen Sophia, with funds provided by the Royal family, numerous private donors, and the "Samlag" of Christiania. It affords treatment for cases between 4 and 15 years of age. Sufferers from pulmonary tuberculosis are not admitted. The hospital is situated two kilometres distance from Fredriksværn, a picturesque and charmingly situated seaside resort near the mouth of the Christiania Fjord (Fig. 3). Larvik, about three miles distant, which can be reached by either road or boat, is its nearest railway town. The climatic conditions are those of a mild marine station. Experience shows that it possesses no special advantages over a more elevated inland station. Still, the position is convenient of access and its close proximity to the shore offers many attractions for the children. The hospital consists of a wooden main building of two storeys with accommodation for 100 cases, an isolation block, and necessary out-buildings. It also possesses electric and disinfection equipments. The wards are large, well lighted, and airy, and there are commodious day rooms. There are a satisfactory operating theatre and convenient laboratory (Fig. 4).

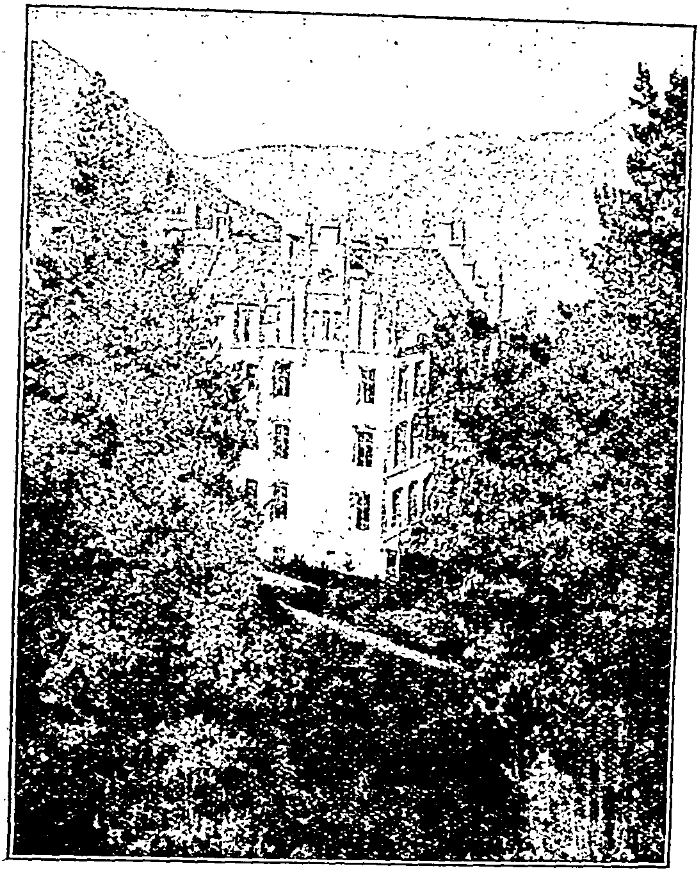
FIG. 4.



The Fredriksværn Hospital for Tuberculous Children. South aspect overlooking the Christiania Fjord.

The complete cost of the institution amounted to about kr 200 000. or kr. 2000 per bed—that is, a little more than £108 a bed. The working expenses amount to something like kr. 1 50 for each patient per day. The parents or friends of the little sufferers only have to contribute kr. 1.00 a day,

FIG. 1.



Lyster Sanatorium, showing its elevated position on the mountain side above the Sogne Fjord.

PUBLIC NORWEGIAN SANATORIUMS FOR CONSUMPTIVES.

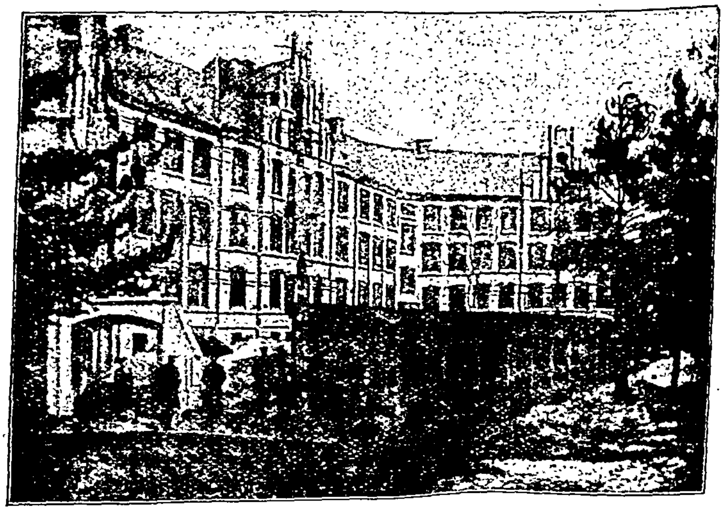
At present Norway possesses all too few public or State institutions for the adequate treatment of early necessitous consumptives. Funds which have been accumulating since the Middle Ages, originally provided for the support and treatment of lepers, are now being devoted to the care of consumptives, and as the number of lepers is steadily declining it seems likely that before long a still larger amount will be available for the establishment of sanatoriums or at all events the control of tuberculous patients. The old leper institution at Reknæs has been converted into an establishment for consumptives and funds originally intended for lepers have helped to build the new sanatorium at Lyster.

Lyster Sanatorium.

This representative institution is thoroughly modern, having been opened as recently as November, 1902. It is situated in the western part of Norway, on the southern slope of the mountain range bordering the Sogne Fjord. In winter it is very difficult of access and one cannot help thinking that it would have been wiser to select a less isolated district. It has been built out of the funds of the ancient St. Jörgen's Leper Hospital of Bergen, and owes its origin to the thought and enterprise of Dr. Klaus Hanssen, the senior physician of the Bergen Hospital. The sanatorium is excellently placed at an altitude of 470 metres above sea level in a peculiarly charming mountainous district (Fig. 1). The climate is sub-Alpine in character. During winter the whole country is snow-clad and frost-bound. At considerable expense a mountain road and wire tramway have been constructed from the lower level to the sanatorium. The institution consists of a main building, four summer houses, an isolation house, stables, and necessary offices and outhouses. Accommodation has been provided for 126 beds and in addition there is room for 12 patients in the summer pavilions. There are 18 bedrooms, originally designed for four patients in each, and allowing about 36 cubic metres per bed. Frequently five cases are placed in each room, the space allowance then being from 29 to 30 cubic metres per patient. There are also three bedrooms for four patients each. Twelve rooms are provided for single cases, but some of these are sufficiently roomy to take two patients. All the bedrooms face south. Separate dining and day rooms are provided for men and women. Good sanitary accommodation is provided for each sex on every storey and in the basement. In the main building are quarters for the medical director, rooms and offices for the resident staff, medical and administrative, and a laboratory. Heating is arranged for by means of a low pressure steam system. Hot and cold water are available throughout. Ample water-supply is provided for lavatories, baths, water-closets, and fire mains. There are modern appliances for steam cooking, electric lighting and ventilation, and an electrically heated disinfector for the sterilisation of sputum. The electrically driven system of ventilation has not been required as free natural ventilation can be secured both during summer and winter by means of open windows. Sewage is dealt with in a septic tank. A plentiful supply of spring water has been brought from the mountains in pipes and is so abundant that it also serves to drive the electric plant which works the tram and provides the lighting. A liegehalle is placed on the south side of the building. The grounds are extensive and adjoin the natural forest region (Fig. 2).

The isolated and elevated situation of the sanatoriums has added much to the initial cost and of course increases the expense of maintenance. The total cost has averaged something like kr. 5960, or about £322 per bed, an expenditure which compared with some similar institutions outside Norway must be considered very reasonable. The total working expenses for each patient are said to be kr. 2.95, or about 3*s*. per day, of which the State contributes kr. 1.75, or about 2*s*., and the patient or his friends contribute kr. 1.20 per day. Those, however, who are able pay kr. 2.95 per day

FIG. 2.



Lyster Sanatorium. South aspect with open-air shelter.

to this comparison because on page 6 of the report it is stated: "For even if it be conceded that the Irish official estimate is too low there can be very little doubt that an estimate calculated according to the British method is in the particular instance (i.e., Belfast) too high." Further, the return of new buildings erected in Belfast year by year shows that the last intercensal increase has not been maintained since 1901. In 1906, according to the report, the number of new buildings in Belfast fell to 622, which is lower than that for any previous year since 1850. Finally, calculations based on the birth-rate also point to a diminution of the rate of increase of the population. Keeping in mind all these facts, it seems an altogether doubtful, if not fallacious, hypothesis that in comparing the death-rate of Belfast with that of an English city we must first increase the population of Belfast by 31,000 over the number estimated by the accredited Irish authority, the Registrar-General. Such facts render more and more problematical the conclusion of the Commission that "it cannot be maintained that the death-rate of Belfast is, or that it has been in recent years, excessive, as has been alleged, when compared with those of other large cities of the United Kingdom." It is more than likely that in 1911 it will be seen that the estimates now made by Sir Robert Matheson, the Irish Registrar-General, will be nearest the exact facts. The Commission rightly considers it desirable that the whole question of the methods of framing these estimates should be carefully reconsidered by the Registrars-General for the three divisions of the United Kingdom, and that as it is so plainly of advantage to compare the vital statistics of the various communities in these divisions, there should be reasonable uniformity of method in aiming at such estimates. Without some such uniformity it is clear that any useful comparison remains impossible.

THE GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

(Continued from p. 1514.)

Transplantation of Bones.

Professor **LEXER** (Königsberg) reported the results obtained by him in the transplantation of bones. He said that he had formerly used macerated bones taken from dead bodies and had inserted them under the periosteum where required; small cavities were in this way successfully filled, but in larger ones the inserted bone acted as a foreign body and was generally discharged by suppuration. He accordingly used fresh bone with periosteum which he got from amputated limbs and had in this way obtained excellent results, for the inserted pieces became united. As the presence of the bone marrow was found to produce pyrexia and irritation after the implantation it was previously removed and replaced by a plug containing iodoform which in course of time was absorbed. He gave the history of a series of operations performed by him in this way and explained his procedure. One very remarkable case was that of a man from whom he had removed the upper third of the tibia with the epiphysis, which was then replaced by a part of the tibia of the same size taken from an amputated limb; the knee-joint had comparatively good mobility. In a second case he had replaced an ankylosed knee-joint by an entire knee-joint taken from another person; the operation was successful and the mobility of the new joint was tolerably good. Bones taken from persons suffering from dry gangrene were very suitable for transplantation.

Dr. **REHN** (Frankfort) mentioned the case of a child whose hip-joint he had resected for coxitis. In order to obtain the formation of new bone he inserted a piece of ivory into the femur in the direction of the acetabulum. A radiogram showed that osseous tissue had developed and a serviceable limb was the result.

The Production of General Anæsthesia by a Combination of Scopolamine and Morphine.

Professor **NEUBER** (Kiel) expressed regret that the combination of scopolamine and morphine was comparatively little used as a general anæsthetic. In 250 operations which he had performed seven patients had scopolamine and morphine only, whilst in the remaining 243 cases ether was added. It was a great advantage that the patients could be anæsthetised in the ward and put on the operation table in a drowsy condition. The pulse was generally good during the anæsthesia; no excitement, vomiting, salivation, or asphyxia ever occurred. After the operation the patients continued in a drowsy state without feeling pain. Pneumonia was never observed.

A New Method of Producing Local Anæsthesia of the Extremities.

Professor **BIER** (Berlin) described a new method of producing local anæsthesia. If the limb to be operated on was the arm it was first emptied of blood by an Esmarch's bandage. A soft bandage was then put round it above and below the elbow and an incision was made in the median vein. Any blood which might have remained in the vein was then pressed out and a metallic cannula was inserted through which about 100 cubic centimetres of a solution of novocaine of 0·25 per cent. strength were injected. Analgesia of sufficient duration for the resection of the elbow at once occurred throughout the whole limb. In the lower extremity 150 cubic centimetres of the solution should be injected into the saphenous vein. To avoid the production of toxic symptoms it was essential that the bandage should be loosened by degrees; the analgesia disappeared a few minutes after the bandage was finally removed.

Treatment of Suppuration by the Ferment and Anti-ferment of Leucocytes.

Dr. **MÜLLER** and Dr. **PEISER** (Breslau) said that they had endeavoured to convert the "hot" suppuration of acute inflammation into "cold" suppuration by the administration of anti-serum. They used for that purpose either normal blood serum or hydrothorax fluid or ascites fluid containing anti-serum. On irrigation of an abscess with those fluids the purulent discharge became serous within 24 hours, and the granulation of ulcers was accelerated.

Disinfection of the Skin.

Dr. **VON BRUNN** (Tübingen) said that the skin could be efficiently disinfected by brushing it for five or ten minutes with alcohol of 95 per cent. strength without previously washing in water. He believed that by the astringent effect of alcohol on the skin the germs were fixed. He had found that this method gave just as good results as the complicated process of disinfection devised by Professor Fürbringer.

Dr. **HEUSNER** (Barmen) recommended for disinfection of the skin a mixture of iodine and benzene by which fatty substances were dissolved in a much higher degree than by ether.

Dr. **WEDERHAKE** (Düsseldorf) recommended for the same purpose a solution of tetrachloride of carbon of 0·1 per cent. strength which when brushed on the skin for a period varying from three to five minutes reduced the germs by 95 per cent. After the disinfection the skin was covered with "dermagummis," a solution of iodine and caoutchouc in tetrachloride of carbon.

Operations on the Brain.

Professor **VON HOCHENEGG** (Vienna) showed a patient from whom a tumour of the hypophysis had been successfully removed. He approached the hypophysis by way of the nose and temporarily opened the frontal sinuses which were abnormally large. He then resected the sphenoid bone and scooped out the hypophysis through the base of the sella turcica. The hypophysis was enormously enlarged. A strip of gauze was then passed from the nose through a drainage tube into the cavity and was removed on the eighth day. In three weeks after the operation the patient showed an improvement. The headache disappeared and the power of vision was better. The decline of the symptoms of acromegaly was especially remarkable. The hands became smaller and could now be closed, while the feet became so much smaller that the shoes which the patient had worn before going to the hospital were too large for her at the time of her discharge.

Operation for Graves's Disease.

Professor **KOCHER** (Berne) recommended an early operation in this disease. In his former series of cases he had had nine deaths among 167 patients, but in his recent series only two deaths among 153 patients. A careful examination of the blood was made in 106 cases, the result being that the red corpuscles were found to have increased to 5 000,000 and upwards per cubic millimetre, whilst the leucocytes decreased from 7000 to 700 per cubic millimetre, the principal reductions being in the polynuclear neutrophiles, whilst the lymphocytes the deficiency being made up by an annual State grant of kr. 15,000 a year.

Up to the present a little more than 1200 cases have been dealt with since the establishment of the hospital. Of these, 27 per cent. have been the subjects of superficial scrofulo-tuberculous lesions, 2 per cent. lupus, 3 per cent. visceral tuberculosis, and 50 per cent. tuberculosis of the bones, joints, and spine.

Dr. Sinding-Larsen, the medical superintendent to whom the institution is indebted for much of its success, took me over the whole establishment and favoured me with full particulars.[5] Treatment is mainly hygienic and dietetic and where necessary resort is made to the resources of orthopædic surgery. Fortunately there is no time limit. If possible patients are kept until they are cured. The average duration of residence is 300 days. Cases of Pott's disease and hip trouble are often retained for upwards of two years. The results appear to have been most encouraging. No less than 83 per cent. are returned as "considerably improved" and "improved." Only 17 per cent. were "not improved" or died. Of the fatal cases 50 per cent. were due to meningitis and miliary tuberculosis. The Fredriksværn Hospital is an institution concerning which Norway may be congratulated.

The Children's Marine Hospital at Hagevik.

A second seaside institution for tuberculous children is situated at Hagevik, which is reached from Bergen. Unfortunately, at the time of my winter visit to Norway the difficulty in reaching this part of the country was so great that a visit to it had to be omitted from my programme. Dr. H. G. Gade, the medical superintendent, has, however, kindly favoured me with copies of his reports,[6] which show that this institution is accomplishing an admirable service for the tuberculous children of Bergen and the western districts of Norway. This institution is now being enlarged and will shortly have accommodation for 100 cases.

Norway has much to show to the many in this and other lands who seem to think that little effective work for the tuberculous can be accomplished without an elaborate and expensive organisation and pretentious, and thus necessarily costly, establishments. Norway, in spite of financial, sociological, and geographical limitations, is accomplishing much towards the stamping out of its most deadly scourge. Other countries should mark and consider the means and measures which are proving so satisfactory in this land of the north.

THE BELFAST HEALTH COMMISSION.

(FROM A CORRESPONDENT.)

IN a recent communication addressed to THE LANCET by Colonel T. Walter Harding, chairman of the recent Belfast Health Commission, he states that when comparing the Belfast death-rate with that of other towns the Commission used the Irish Registrar-General's own estimates when comparing Belfast with other Irish towns, and estimates framed according to the method employed by the English Registrar-General when comparing Belfast with English towns, while for comparing the Belfast death-rate for a given year or period of years with the Belfast death-rate for another year or period of years the Commission made use of its own independent estimate of the population of Belfast. In looking carefully into this part of the report of the Belfast Health Commission it seems that if, to recall the famous dictum of the late Dr. Farr, "vital statistics form the basis of all health reform," they must be based on facts and not on assumptions, and that if comparisons are made as to the vital statistics of different places they must follow the same data. Now the very bed-rock of the vital statistics of any city depends (1) on its population and (2) on the comparison of its death-rate with that of other cities.

1. The population of a city in ordinary parlance is usually given as a certain number "at the last census" but in public health matters the question often arises, What is its population in intercensal years? To quote an example, Belfast was in population 349,180 in 1901 according to the census. What was the number of its inhabitants in 1906? The Belfast Health Commission in its report admits this "is somewhat difficult to determine," and as evidence of this it actually supplies us with four different estimates. (1) The Registrar-General for England, assuming that the population has increased since 1901 in the same ratio that was exhibited during the last intercensal period, would estimate at the middle of 1906 as 397,202. (2) On the other hand, the Irish Registrar-General does not, like his colleagues in Great Britain, estimate the population of communities in Ireland by assuming that the last intercensal ratio of increase or decrease has been maintained. His estimates are framed as the result of consideration of the birth-rate, of the effects of emigration and immigration, and of any local facts of which he can obtain knowledge, and as a result he, in giving evidence at the Commission, calculated the population of Belfast at the middle of 1906 as amounting to 366,220, or 31,000 fewer than an estimate framed according to the British method. (3) The Belfast corporation thinks this official estimate of the Irish Registrar-General is too low and that, as a corollary, the vital statistics based upon it are too high. The chairman of the public health committee estimated the population as being in 1906 388,159, and the city surveyor arrived at a somewhat similar figure as the result of a special inquiry, but in its report the Commission says:—

> In connexion with these estimates, both of which are largely based on the number of "empty" houses in 1906 as compared with the number of houses returned as "uninhabited" in the Census of 1901, it has to be borne in mind that the term "empty houses" and "uninhabited houses" are not synonymous, for the latter term includes business premises unoccupied at night, while the former does not. If allowance could be made for this discrepancy it might well be that both these official estimates would come to be nearly identical with the official estimate of the Registrar-General.

(4) Finally, the Commission, apparently not satisfied with any of the preceding estimates, makes one itself, based upon the number of births registered each year and concludes: "On the whole, therefore, it seems reasonable to assume that the population of Belfast in 1906 was approximately that given in the third column (Table I. showing the population of Belfast, as estimated in different ways, 380.500), namely, in round figures, not much more than 380,000."

Therefore we find the population of Belfast for 1906 is estimated as 366,220 (Irish Registrar-General), 397,202 (English Registrar-General), 388,159 (Belfast corporation), and "not much more than 380,000" (Belfast Health Commission). Such wide discrepancies (397,202 and 366,220) in figures warrant the conclusion that the estimate of the population of a large city like Belfast is, in an intercensal year, a mere speculation. The exact population will not be known until 1911 when it is possible that the estimate of the recognised Irish authority—Sir Robert Matheson—will turn out to be nearest the truth, inasmuch as his calculations are based on far more varied data than those employed in any of the other methods. The importance of having a correct knowledge of the population is shown in Table VIII. in the report of the Commission, where the death-rate of Belfast in 1906, based on populations as estimated (1) by the Registrar-General for Ireland, was 20·1; while (2) by the method of the Registrar General for England and Wales it was 18·6; and (3) by the number of registered births (the method of the Commission) it was 19·4.

2. How can the death-rate of a city like Belfast be compared with that of other cities in intercensal years? The Commission gets out of this obvious difficulty by using the figures of the Irish Registrar-General when comparing Belfast with other Irish towns, but when it comes to compare the death-rate with that of English towns it employs the method adopted by the English Registrar-General. Table IX. shows the death-rates of Belfast, Cork, and Dublin, based on populations as estimated by the Registrar-General for Ireland; but even in this respect there is doubt, as the Commission says, "such estimates are much less liable to inaccuracy in the case of Dublin and Cork than in the case of Belfast, in view of the less rapid increase of population in these two registration districts." In comparing the death-rate of Belfast with English and Scotch cities the Commission bases the Belfast rates upon populations estimated by the same method as that adopted by the English Registrar-General in order to make them comparable—that is, it makes the population of Belfast 397,202 instead of 366,220 as calculated by the Irish Registrar-General. Now there is great room for doubt in regard

---

[5] For full details of this interesting establishment and its excellent work reference should be made to the following, prepared by Dr. Chr. M. F. Sinding-Larsen: "Kysthospitalet ved Fredricksværn for Scrofulöse Börn," Kristiania, Steen'ske Bogtrykkeri, 1901;" and "Beitrag zum Studium der Behandlung der Hüftgelenktuberkulose im Kindesalter." Sonderabdruck aus *Nordiskt Medicinskt Arkiv*, 1905 and 1906 Stockholm, Kungl. Boktryckeriet.

[6] Aarsberetning for Kysthospitalet i Hagevik for 1906, Bergen, A. S. John Greigs Bogtrykkeri, 1907.

the rash made its appearance between the fourth and eighth day of the disease; in the majority on the fourth (10 cases) or fifth (14 cases) day. In addition to the ordinary routine methods of isolation, disinfection, &c., special precautions were taken to prevent infection by bites of fleas in infected houses in view of the suggestion that has been put forward that fleas may possibly be carriers of the specific virus. The check on "contacts" was most efficient; only one case was traceable beyond the borough and this was immediately isolated, so that no further harm was done. The success of Dr. Clayton's efforts is very striking; in three months the disease was stamped out entirely. The last outbreak of typhus fever in Gateshead began in 1881 and persisted uninterruptedly until 1889.

Northumberland and Newcastle upon-Tyne Sanatorium.

The sanatorium occupies an isolated position on the rising ground above the North Tyne at Barrasford. The hospital was opened on May 11th, 1907, and between that time and the end of the year 49 patients had been treated, of whom 24 were still in residence on Dec. 31st, the remainder having been discharged. Of the 49 patients, 29 were males and 20 females, the ages varying from 16 to 50 years. Of the 25 discharged, four were not improved, eight had shown some improvement, nine were much improved, and in four the disease was said to be arrested at the time of discharge. Inquiries four months later show that of the 18 males included in the 25 above-mentioned cases, six are at work and four are dead. With regard to cost, the sanatorium authorities state that the average cost per patient during 1907 (seven and a half months only) was £2 19*s*. 11*d*. per week; with 30 patients in residence the cost was about £2 8*s*. It is estimated that with 40 patients the cost will be covered by the fees charged—viz., £2 2*s*. per week; and with the full complement of patients—viz., 50, the cost may possibly come down to £1 15*s*. per patient per week. The sanitary committee of the Newcastle corporation is now proposing to pay the sanatorium authorities £2000 per annum for the use of 20 beds for patients sent by the corporation. The sanatorium had only been open for about seven months at the time when the first report was issued and though possibly it is hardly fair to criticise at such an early stage still, in view of the experience of other places, a stay of 13 weeks in the case of males, or of 16 weeks in the case of females (the average duration of treatment at Barrasford), is quite insufficient in the ordinary way to enable a patient to derive any material benefit. Symptoms may, no doubt, be temporarily relieved and patients be temporarily benefited by a short sojourn of three or four months at a sanatorium but it seems to be now recognised that a very considerably longer period of treatment is essential, even in quite early cases, for any material and lasting benefit to accrue. The recent able and exhaustive report by Dr. H. T. Bulstrode on sanatoriums is a work which would well repay close perusal by those concerned in sanatorium affairs.

Examinations in Medicine, &c.

The secretary of the College of Medicine draws the attention of all candidates intending to present themselves for examination in medicine, surgery, hygiene or public health to the fact that the examinations in Newcastle are now held in March and July instead of as heretofore in April and September. The next examinations will commence on Monday, July 13th next.

June 8th.

THE WINSLEY SANATORIUM.—The health committee of the Bristol city council has under consideration a proposal from the authorities of the Winsley sanatorium. At present patients stay for a period of 16 weeks, but after two months it has been found in many cases that one of two results is obtained—either that there is so little response to treatment that a prolongation of the stay is useless or that the patient has acquired such a knowledge of the treatment that a continuation away from the sanatorium is possible. This being so, it is recommended that in future two months should be the usual period allowed at the institution on the understanding that there shall be provision for a stay of four months if considered advisable. A strong point in favour of the proposition is that it will allow of so many more patients being treated. It is stated that the other public bodies connected with the sanatorium have agreed to the recommendation.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Professor of Medicine in the University of Glasgow.

SINCE the death of Sir Thomas McCall Anderson some months ago the chair of Practice of Medicine in the University of Glasgow has been vacant. This week it is announced that the King has been pleased to appoint Dr. Samson Gemmell to the chair. Dr. Gemmell is a graduate of Glasgow, having taken the degree of M.B. in 1872 and of M.D. in 1880. For eight years he discharged the duties of assistant to Sir William Gairdner in connexion with the chair of Practice of Medicine, and he was also clinical assistant to him in the Western Infirmary for a period of four years. In 1887 he was elected physician to the Royal Infirmary and five years later he became physician to the Western Infirmary. In 1880 he was appointed to the chair of Practice of Medicine in Anderson's College Medical School. In 1900 he succeeded Sir Thomas McCall Anderson in the chair of Clinical Medicine. By the appointment of Dr. Gemmell to the chair of Practice of Medicine the chair of Clinical Medicine now becomes vacant.

Scarlet Fever and Milk-supplies.

The medical officer of health of Glasgow has drawn attention to the difficulty which may attend the operation of existing provisions for stopping a milk-supply associated with the occurrence of infectious disease among its consumers. The following case was used to illustrate the difficulty. Attention was directed recently to a milk-supply among the consumers of which certain cases of scarlet fever were occurring. It was ascertained that milk from the same source was being sold at a second dairy in the town and among the consumers here also cases were occurring. The employees of the dairies, as well as of the farm, were examined without any illness which would explain the outbreak being discovered, yet the contemporaneous occurrence of cases on both sections of this milk-supply among persons who had nothing else in common seemed inevitably to suggest the milk-supply as affording the explanation. Viewed in relation to existing legislation some difficulty might arise in a case like this, for while Section 18 of the Glasgow Police (Amendment) Act, 1890, proceeds on the assumption that infectious disease is recognisably present at the source of supply, the Public Health (Scotland) Act, 1897, Section 60, requires "evidence" that disease is being spread in its distribution. It is questionable whether anyone would be justified in maintaining that the foregoing occurrences constitute "evidence" as required by the Act, but they certainly afford reasonable ground for assuming that infection had by some manner not ascertained gained access to the milk before delivery.

Presentation to Dr. Bruce Goff.

The annual dinner of the members of the Glasgow and West of Scotland Branch of the British Medical Association was held last week in the St. Enoch Hotel. The chief feature of the evening was the presentation of a silver Warwick vase and four fruit dishes to Dr. Goff in recognition of the valuable service rendered to the branch, whose representative on the general council he has been for the long period of 25 years.

Meeting of Medical Men on behalf of the Ruchill Medical Officers.

A meeting of the Glasgow and West of Scotland branch of the British Medical Association was held recently in Glasgow to consider the case of the resident physicians who were recently dismissed from Ruchill fever hospital. The meeting, which was very largely attended, expressed its sympathy with the medical officers. It was decided to open a fund to help towards the payment of their legal expenses.

Lady Sanitary Inspector for Port Glasgow.

During the past few years the Port Glasgow town council has several times had under consideration a proposal to appoint a lady sanitary inspector in the burgh, but while sympathising with the suggestion the council could not see its way to incur the expenditure which such an appointment would entail. The matter has, however, now been settled by the generous action of a Port Glasgow lady who has intimated that she is prepared to pay the salary of a lady sanitary inspector for three years. The town council has decided to accept the offer.

increased. After the operation the polynuclear leucocytes very soon increased, while the lymphocytes decreased. In the prognosis a decrease in the neutrophile leucocytes and an increase in the lymphocytes were unfavourable conditions. The chance of recovery rose in accordance with the size of the piece of gland which was removed. Professor Kocher had observed that in Graves's disease the coagulability of the blood was impaired.

Operations on the Cervical Glands.

Professor DOLLINGER (Budapest) recommended that in the extirpation of tuberculous cervical glands the incision should be made on the posterior part of the neck, in order that the cicatrix might be covered by the hair and so become less visible than if it was on the front of the neck. He had operated on 200 cases in this way; in 167 of these patients primary union was obtained, whilst in the remainder the discharge ceased within a few weeks. The glands were drawn by forceps into the incision and successively cut away. Cases in which the skin was already thin were, of course, unfit for this method.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Pulmonary Tuberculosis.

AT the last meeting of the Prestwich board of guardians a letter was read from the Grimsby union asking the board to support a resolution in favour of provision by the State of district or county sanatoriums, so that all classes may receive treatment on the latest scientific lines for pulmonary tuberculosis. Some may question the wisdom of looking to the State as the universal provider. But apart from that these cases, the chairman said, had been generally taken over by local authorities. It had never been a question for the State before, "though, of course, if the State would take it over it would be a great relief to the authorities." In the end it was decided to comply with the request. The Stockport guardians on June 4th adopted a resolution to the effect that the time had arrived when the State should provide district or county sanatoriums and that the various boards of guardians should be asked to make a united appeal to the Government to promote legislation on these lines. At a meeting the other day of the Lancaster board of guardians a member said that there was a continual crop of cases of pulmonary tuberculosis at the workhouse and that it was unfair that inmates, especially young people, should be exposed to the risk of infection. It was dangerous, he said, for people to occupy a house where a patient had died from consumption unless it had been thoroughly disinfected, "yet they allowed people in the last stages of phthisis to lie in open wards with people of all ages and conditions of health and unaffected by the disease." If this is so, it certainly points to some want of classification at Lancaster. One of the disheartening experiences connected with hospitals for consumption is, that however much patients may have improved while in hospital, they are not immune against fresh attacks, and after returning to their homes too often appear again at the hospital in a worse state than before. In Manchester the thorough disinfection of the patients' homes, at first disliked by the friends but now welcomed, has certainly been beneficial. It is a good sign that the old fatalistic *laissez faire* ideas are losing their hold.

A Frank Defaulter.

It is not often that the attempts to pass off unsound as sound meat are relieved by a flash of conscious, or perhaps unconscious, humour, but this happened at Preston the other day. A man was fined £5 and costs for exposing the unsound carcass of a pig for sale. He said that he had been bringing pigs to the market for 30 years and would not have brought this if he had known it was wrong. The butcher told him that it was all right. But the chairman told him that he must have known it was not right, and the defendant innocently remarked, "It would have died if I had not stuck it myself."

Adulterated Butter.

The persistent attempts to palm off adulterated butter as genuine seem to show that the game, when successful, is very profitable. From a case that occurred recently where a man was summoned for selling as butter a preparation containing 80 per cent. of margarine, it appears that a considerable organisation is at work to carry on the practice. For the prosecution it was stated that it was not a mere instance of a person keeping a small shop but that they were dealing with a very numerous class. The defendant was ordered to pay a penalty of £20 and costs.

Ignorance as to Anthrax.

A short time ago a farmer at Whitefield was fined £5 and costs for exposing anthrax meat for sale in the Manchester market. He pleaded ignorance and said that he did not know that the cow was suffering from anthrax. The magistrate accepted the plea and imposed a lighter fine than he otherwise would have done. Surely all those who have to do with cattle should know how to detect anthrax.

Bequests.

By the will of Mr. Edward Aston, a Manchester merchant, nearly £40,000 have been left to religious and philanthropic societies, and also to the Northern Counties Hospital for Incurables and to the Manchester Cancer Hospital and Home £1000 each.

June 9th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The Recent Outbreak of Typhus Fever in Gateshead.

Dr. T. M. Clayton, the medical officer of health of Gateshead, gives in his annual report for 1907 some interesting facts relative to an outbreak of typhus fever (happily limited) with which he had to deal between the end of October, 1907, and the end of January, 1908. There were 49 cases in all. From the report it appears that on Oct. 25th Dr. Clayton had his attention drawn to three cases of illness the characters of which aroused a suspicion of typhus fever. Three days later five other similar cases were brought to his notice. In all these cases there was a history of severe illness with fever lasting a fortnight or longer. When seen for the first time there was no rash and the blood failed to react to the agglutination test for enteric fever. The cases were isolated and a diagnosis of typhus fever was made, which was confirmed by the course of the illness in the later cases which were observed from practically the day of onset. The subsequent cases were all traceable to contact with the earlier ones and by far the greater number of them were discovered by the staff of the health department. A nurse was the only person on the special staff employed in connexion with the outbreak who contracted the disease. Dr. Clayton is of opinion that the cases which he saw on Oct. 25th were not the first to occur in the borough. He was led to believe that three deaths certified as due to pneumonia were in reality cases of typhus fever. The first of these deaths occurred on August 31st. Beyond this he has been unable to trace the origin of the disease or the channel through which it gained admittance to the district. 47 cases occurred in 18 houses, with an average of 2·8 rooms and 6·2 inmates per house. Eight cases were removed from one house. The majority of the houses were "dirty, verminous, and ill-ventilated." The density of the population in Gateshead is 38·9 persons per acre. The cases were limited to the north and central parts of the borough. The incidence of cases and population per acre in the several wards affected are as follows:—

Wards.	N.	N.E.	N.W.	E.C.	S.C.	W.C.
Number of cases of typhus fever... ...	1	7	26	12	1	1
Population per acre	91·9	29·4	39·4	166·1	49·5	109·6

All ages were equally affected, the youngest being three weeks and the eldest 51 years. 20 males and 29 females suffered. The deaths numbered four (8 per cent.), two males and two females. In those cases in which it was observed for that popular seaside summer resort. It is interesting to note that wherever the Tuberculosis Exhibition has gone the Local Government Board has had less trouble in carrying out public health reforms.

Death of Mr. Sidney Brice Smyth, M.A., M.B. Dub.

The medical profession received a real shock when it was announced on Thursday morning last that Dr. Sidney Brice Smyth had died suddenly at his residence, Ulsterville House, Lisburn-road, Belfast. On the evening before he dined with his father (Dr. Brice Smyth), after a hard day's work, without manifesting any signs of illness and retired to rest as usual, but in the morning (June 4th), when his servant went to arouse him, he was found dead from heart failure. For some time past he had been breathless on any great exertion, and at times had presented a cyanosed appearance, and he was arranging to go for a holiday. At the time of his death he was 39 years of age. Dr. Smyth, after being at school at Uppingham, studied at Trinity College, Dublin, where he graduated in medicine in 1890. In the same year he began practice in Belfast and soon, as a result of his energy and ability, established for himself a good position. He was physician to the Belfast Hospital for Sick Children and to the Maternity Hospital, to both of which he rendered valuable services. Dr. Smyth was a keen sportsman, being specially fond of yachting, fishing, and motoring. A personal favourite and a man of most gentlemanly bearing, he was greatly respected by a large *clientèle* of patients who deeply deplore his sudden death. The keenest sympathy is felt with his aged father, a very well-known member of the medical profession in Belfast. Dr. Smyth was unmarried.

The British Dental Association.

The annual conference of the members of the British Dental Association, which now numbers 1675 members, took place during the Whitsuntide holidays in Belfast. On Friday night (June 5th) Mr. L. Matheson, L.D.S., of London, gave a popular lecture, which was very largely attended, on "The Teeth of the People: a National Asset." On Saturday morning, June 6th, in Queen's College, Belfast, after some valedictory remarks from the retiring President, Mr. J. C. Oliver, L.D.S., of Cardiff, the new President, Mr. J. J. Andrew, L.D.S., of Belfast, took the chair and delivered a very practical address in which he referred specially to the importance of the inspection of school children *to see* the condition of those organs which are most often at fault—the eyes, the ears, and the teeth—and emphasised the fact that the physical condition of children was almost of more importance to a nation than education. In the afternoon Dr. J. Sim Wallace gave an address on "Diet in Infancy and Childhood"; Mr. C. E. Wallis, L.D.S., of King's College Hospital, London, spoke of the necessity of dental clinics; Mr. A. Layton, L.D.S., gave an address on "Experience of Dental Inspection and Treatment in the Kettering Elementary Schools"; while Mr. G. Cunningham, L.D.S., contributed an interesting series of statistics illustrative of his experience of a school dental clinic in Cambridge. The annual dinner took place in the Grand Central Hotel, Belfast, on Saturday evening when the President occupied the chair, and 175 members and guests were present. This entertainment was a marked success. A series of scientific papers were read on Monday and the annual meeting of the Benevolent Fund was held; in the evening the President of the Association and the members of the Irish branch held a reception in the Grand Central Hotel, at which dancing, whist, music, &c., were the features of the evening. One of the most popular exhibits at the meeting was a demonstration given by Professor J. Symington, F.R.S., and Dr. J. C. Rankin showing the development of both the primary and the permanent teeth in young people as illustrated by the x rays method. The radiograms were much admired and Professor Symington was cordially thanked.

June 9th.

PARIS.

(From our own Correspondent.)

The Etiology of Sydenham's Chorea.

At the French Society of Oto-Rhino-Laryngology M. de Ponthière has communicated the results of his ten years' observations on the etiology and treatment of chorea. The rapid and permanent cures obtained by removing tonsils which are chronically infected and adenoid vegetations point to the conclusion that chorea is generally the outcome of an auto-intoxication produced by swallowing septic material secreted by the lymphoid organs of the naso-pharynx. This naso-pharyngeal infection is nearly always rheumatic. The pharynx is responsible for the cardiac and articular manifestations of rheumatism which follow on septic or gouty sore-throats. The author adduced the analogy of other local and general symptoms which are common to "adenoid" and to choreic patients, such as deficient nasal respiration, disturbed nights and night-terrors, dyspnœa, tender spots in the side, muscular and intellectual disabilities, difficulty in concentrating the attention (aprosexia), alterations in the character, digestive disturbances and distaste for food, especially in the morning, lymphatism, and the stupid aspect of choreics which is the same as the adenoid facies. The examination of the naso-pharynx is thus of the highest importance in cases of true chorea, as the origin of the neurosis will be often discovered there.

The Employment of Women and Children.

The Minister of Labour has introduced into the Chamber a Government Bill to authorise the public administration to lay down by order the different classes of work dangerous to health or morality which are to be forbidden to women and children under 18 years of age in the establishments *coming* under the Health and Safety of Workers Act. The object of this measure is to secure to women and children employed in commercial establishments the same protection as is assured to those employed in workshops and factories.

The Wording of Medical Certificates by Practitioners.

The Appeal Court has recently delivered an interesting judgment which puts a certain responsibility upon medical men in drawing up certificates for the detention of insane persons in asylums. It arose from a practitioner adding to such a certificate certain libellous remarks about the patient's neighbours who brought and won an action for damages against him. The defendant took the case to the Court of Appeal which upheld the verdict, holding that a medical man has not an absolute discretion in the wording of certificates, especially when it comes to speaking about third parties whose mental condition is not in question, and that such remarks may be libellous and the proper cause for an action for damages.

Charges against Medical Men.

Two criminal charges against medical men have been occupying the courts recently. The first is concerned with a Dr. B. together with a workman who took service with a master carpenter on August 17th in last year. Three days later he sustained an injury to his thumb in the course of his work which a Dr. J. diagnosed as a sprain; on Sept. 2nd this same medical man certified the patient as cured and fit to resume work. On the strength of this certificate the Common Industrial Fund allowed the man 35 francs temporary indemnity. Three days later, however, he went to consult Dr. B., the defendant in the present case, who treated him until Oct. 10th, when he gave him a certificate dated Oct. 8th to say he was cured, on the strength of which he obtained a further grant of 93 francs from the aforesaid fund. In the meantime, on Sept. 11th, the carpenter had calmly taken a fresh job under a new master, and three days later he stopped work again, pretending that he had injured the same thumb. This time he was looked after by a Dr. A., who on Sept. 23rd signed him up as cured. His second employer paid him 35 fr. 75 c. compensation. On Sept. 27th he went again to Dr. B., who treated him until Oct. 15th, when his second employer paid a fresh compensation of 91 francs. So between Sept. 11th and Oct. 8th he was being paid half wages by two employers, whilst Dr. B. received fees amounting to 70 fr. 50 c. from the employers and the fund. When these facts came to light the man's last employer charged the workman, together with Dr. B., with conspiracy to defraud. The former confessed his double-dealing, but Dr. B. strenuously denied his complicity. The court condemned the workman to pay a fine of 25 francs and to go to prison for six months, and Dr. B. to pay 500 francs, to forfeit his right to practise medicine for five years, and to six months' imprisonment, and further, the two defendants were condemned to pay 500 francs damages to the plaintiffs. In the second case judgment has not yet been delivered, but it concerns a picture-dealer who is also an insurance agent, and who is charged with having conspired with his medical attendant to defraud insurance companies on a large scale. He is alleged to have effected insurances upon the lives

Founders' Day at Queen Margaret College, Glasgow.

Last week the lady students and graduates of Queen Margaret College took part in the celebration of Founders' Day. The guests were received by Miss Galloway, LL.D., in the hall of the College. In giving an account of the work done at the College during the past year Miss Galloway referred to the fact that a house had been leased as temporary premises for Queen Margaret Students' Union, as the committee had thought it better not to fix on a site for the permanent building till everything was settled as regards the new class arrangements at the University and Queen Margaret College. The rent and upkeep for this temporary building would be paid from the interest of £8000 already raised for the Union Fund, and thus the capital would be left untouched for the new building. Another important advance made during the year was the purchase of the Queen Margaret Hall of Residence.

Medical Inspection of Greenock Schools.

For some time the question of the medical inspection of schools has been exercising the town council of Greenock. In a Provisional Order which it is at present promoting powers are sought to undertake this work. The school board is resenting this; consequently a meeting has taken place between the committee in charge of the Provisional Order and a deputation of the school board. The latter body alleges that the Education Bill for Scotland placed on school boards the duty of appointing medical inspectors for the schools with the object of having the health of the children properly attended to. If, however, the clause in the Provisional Order were passed there might be conflict between the officials of the corporation and those of the board. It was also pointed out that under the Public Health Act the corporation had already power to enter schools where infectious disease was suspected, and this, it was suggested, was sufficient for the purpose of the local authority. Before coming to any final decision in the matter the Provisional Order committee agreed carefully to consider the views of the school board.

Inverness District Asylum: Appointment of Medical Superintendent.

A meeting of the Inverness district lunacy board was held on June 5th in the county council buildings, Inverness, for the purpose of appointing a medical superintendent for the Inverness district asylum in succession to Dr. R. B. Campbell, who was recently appointed medical superintendent of the Larbert asylum. 23 applications were submitted for the appointment. The final vote took place between Dr. Theodore Charles Mackenzie, senior assistant physician, Royal Asylum, Aberdeen, and Dr. Charles John Shaw, senior assistant physician, Glasgow Royal Asylum. Ten votes were recorded for each of these two candidates and the chairman gave his casting vote in favour of Dr. Mackenzie who was accordingly declared appointed. Dr. Mackenzie, who is 34 years of age, is a graduate of Edinburgh University. He had charge of the male side at Morningside Asylum for three years. In September, 1907, he attended the International Congress on Neurology and Psychiatry at Amsterdam as the delegate of the Aberdeen Medico-Chirurgical Society. He has also visited the asylums in Rome, Naples, Florence, and Reggio Æmilia.

June 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Tuberculosis in Ireland.

A RETURN issued by the Registrar-General shows that during the year 1907 the deaths from all forms of tuberculous disease registered in Ireland numbered 11,677, which is very slightly under the number in 1906, which was 11,756, but it will probably work out at a larger percentage owing to emigration.

Medical Men and the Workmen's Compensation Act.

A case of great interest to the medical profession was tried at the Enniscorthy quarter sessions two weeks ago before county court Judge B. Barry, K.C., in which Mrs. Murphy, widow of the late Mr. D. P. Murphy, L.R.C.P. & S. Irel., medical officer of Killane Dispensary, claimed for compensation for the loss of her husband who was killed in the discharge of his duties. She claimed on behalf of herself and four children between the ages of 10 and 16 years. They were wholly dependent on the earnings of Mr. Murphy, whose salary as medical officer was £120 per annum. On Oct. 15th, 1907, a woman, a maidservant of a farmer in the country, was accidentally shot, and on his way to the scene of the accident Mr. Murphy was thrown from his trap, receiving injuries from which he died on the following day. It was submitted that Mr. Murphy was in the employment of the guardians, who were a corporate body, and that there was a contract of service and that he was a workman within the meaning of the Act. The guardians disputed this view. I give the county court judge's decision in full:—

> His Honour: I was going to reserve my judgment in this case, but I don't think I will, because it seems if the intention of the Legislature is not carried out it is the fault of the drafting of the Act of Parliament. From the wording of the Act it is hard to know what was really intended. The proper way to have drawn this subsection was to have defined "workman" as any person and then it would have applied to every person, subject only to the exceptions in Section 9. But the real words that have been followed are "whether by way of manual labour, clerical work or otherwise, and whether the contract is expressed or implied, is oral or in writing." That seems a bit ambiguous. Every contract must be expressed or implied, must be oral or in writing. The drafters of the Act certainly complicated matters very much by inserting, too, "clerical work or otherwise." Because the words manual work or otherwise would restrict the construction of the section to be something which would have the same kind of service as manual labour or clerical work, but what other kind of service is there of the same sort as manual labour or clerical work? I cannot see how you can construct "otherwise" by *ejusdem generis*. There is nothing *ejusdem generis* to clerical work only clerical work, and if I am wrong I will put it in proper order to have it set right. I think the *ejusdem generis* construction, not being applicable, means "otherwise" must get a full and unrestricted meaning, and therefore, subject to what might be said by the Court of Appeal, I will not take the responsibility of throwing out this application. I will reserve this point and conditionally award the sum of £300.
>
> Mr. O'Dempsey, solicitor for the Enniscorthy board of guardians: I ask the Court of Appeal to say whether the deceased was a workman or not within the meaning of the Act. Have you put the general question?
>
> His Honour: Yes. If, in the opinion of the Court of Appeal, the deceased was a workman, I award that the applicant is entitled to the sum of £300—£100 to go to the widow and £200 to be invested for the children in equal shares in the Post Office Savings Bank. The money will be lodged in my name and also Mr. Meadows's
>
> Mr. O'Connor, counsel for applicant: The guardians may not go on with the appeal at all.
>
> His Honour: If they don't prosecute the appeal you will get the order, Mr. O'Connor.

The guardians have appealed and the case will be tried at the Trinity sittings of the law courts in Dublin.

Notes on Sanitary Measures in Ulster Towns.

It is good to find that, thanks largely to the efforts of the Women's National Health Association of Ireland, public health is now getting a due share of attention throughout the country. Recently the Local Government Board of Ireland issued a circular letter on the subject of dairies and cowsheds, pointing out that officers appointed for the inspection of cowsheds and dairy premises should be instructed to make a thorough examination of their respective districts with a view to having all cowkeepers coming under the provisions of the Order registered. The circular also pointed out that as the cattle were now out on grass the requisite structural improvements in the cowsheds should be effected before their return in the autumn. This Order has had a mixed reception, as a rule the urban being more in its favour than the rural councils. The medical officer of health of Lurgan, Dr. Samuel Agnew, in his annual report for 1907, just issued, shows that the general condition of his district has been very satisfactory. With the exception of one death each from scarlet fever and diphtheria, none were due to any of the notifiable infectious diseases. The general death-rate was 19·3 and the zymotic death-rate was 1·4. Special details are given in regard to tuberculous diseases and the greatest hope is expressed that the health association inaugurated by Lady Aberdeen will do much to educate the people in regard to these diseases. Dr. Agnew's report is illustrated by excellent comparative statistical tables. On the advice of Dr. Agnew the people of Lurgan have decided to have their streets more frequently and regularly watered to obviate the danger and nuisance of the dust raised by motors. Omagh urban council had recently before it the question of the sale of methylated spirits for consumption as an alcoholic beverage and it was considered that it should be scheduled as a poison. Mr. Robert Currie, medical officer of health, has drawn the attention of the Ballymena urban council to a large number of insanitary houses in its district, and the Newcastle urban council is arranging to have a report from an engineer on a combined scheme of sewerage, water-supply, and electricity especially with anthropological studies, which he is anxious to see finished. He is the author of the well-known anatomical atlas bearing his name, which introduced a new method of illustrating dissected specimens, and of a widely-read text-book. The lectures of Professor Toldt were always well attended, for he had the faculty of inspiring his students with true scientific enthusiasm.

A Threatened Strike in the Bohemian Hospitals.

The medical staffs of all the hospitals in Prague have, with the exception of the consulting physicians, announced their intention of giving simultaneous notice if their grievances are not adjusted speedily, and the professors are helping their juniors by testifying that they cannot do without them. The main points of difference of opinion are the payment and the food, whilst the staff also requests that proper provision should be made for sickness and leave of absence. Here, as in all such affairs, "red tape" is responsible for the conflict, but the profession has decided to make a stand once for all and careful provision has been made to prevent the hospital boards from finding any medical man willing to take over the work if the strike really occurs on July 1st, which date has been fixed as the latest for the adjustment of the questions in dispute. If Prague be successful no doubt Vienna will follow suit, for the controversies here also are only postponed, not adjusted.

The So-called Lion-Man (Hirsuties Congenita Universalis).

Dr. Grosz showed at a meeting of the Medical Society a man who has been the object of much interest to the public and has been "shown" as a "lion-man" in many countries. He is a young Russian, said to be 17 years old, covered over the whole body with fine lanugo hair except on the head where the normal hair is present. The direction of the growth of hair corresponds on the body, especially on the face, with the fœtal growth of hair. In concordance with the hypertrichosis (consisting of fine, yellow-blonde, soft, long silk-like hair) there is a rudimentary development of the alveoli and teeth. Lionel, as the youth is called, has only two teeth, corresponding to incisors, in the lower alveolus; the x rays failed to show the presence of any dental sacs in the alveoli. In dogs showing abnormalities in their hair growth similar disturbances of dentition have been observed. Cases of this kind are very rare; hitherto only 24 have been recorded by Bartels. One of the oldest is the family, described and painted in 1583 by Plater, consisting of father, mother, two boys, and one girl, all of whom were covered with an ample cloak of hair, especially on the face and breast and back. It is remarkable that the majority of the cases belonged to the Slavonic race (Russian Poles). As regards the explanation, Unna's and Siebold's hypothesis is the most likely one: a persisting and continually growing fœtal hair germ, a theory which is supported by the direction of the hair in the case shown.

Septic and Aseptic Hydronephrosis caused by Constricting Blood-vessels.

Dr. Moszkowicz and Dr. Blum recently had an opportunity of showing patients in whom an abnormal course of the renal vessels gave rise to very dangerous symptoms, causing hydronephrosis. In the first case a woman, aged 20 years, suffered every 12 to 14 days from attacks of intense abdominal pain. During such an attack a tumour in the right half of the abdomen could be palpated, but the urine was clear and free from abnormalities. A simple hydronephrosis was diagnosed and in the operation it was observed that the tumour, which was of the size of a large cucumber, consisted of the renal pelvis, whilst the ureter was completely constricted between two taut abnormal vessels about one inch below its upper end. When the vessels were divided the ureter at once was filled with the contents of the sac. An anastomosis between the ureter and the renal pelvis was made in order to facilitate matters. The kidney, which hitherto had not secreted any urine into the bladder (proved by the ingestion of indigo-carmine before operation), resumed its function and the patient made an uneventful recovery. The three cases shown by Dr. Blum were caused by the ureter being constricted by an abnormal renal artery and all three kidneys had become cystic with grave symptoms (colic, polyuria alternating with oliguria, fever, and rigors) pointing to septic infection of the cysts. The patients were girls, aged 20 and 28 years, and a youth, aged 16 years, and diagnosis could be made also by uretero-catheterisation. The coincident occurrence of the cases is rather remarkable, as sometimes years pass without such a case being observed. As regards the prognosis it must be stated to be good, since a careful operation (nephrectomy) is sure to cure the patient, provided the other kidney is sufficiently healthy. Most of the authors are of opinion that two factors must be present to bring about the condition—abnormal blood-vessels and abnormal mobility of the kidney. Then a compression of the ureter may occur with its disastrous results. Functional examination with the modern methods shows whether the remaining parenchyma of the kidney is active enough to be spared or whether the entire organ must be removed.

June 8th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Sixteenth International Congress of Medicine.

THIS Congress will be held at Budapest from August 29th to Sept. 3rd, 1909. The organising committee has already done a great deal to insure the success of the scientific side of the congress and an entertainment programme is well in hand which should insure the social enjoyment of its members. A meeting of this committee was held in May. The scientific publications of the congress will be issued in two parts. The first part, in 21 sections, will contain the prescribed proceedings; the second part, in 22 sections, will contain the discussions and the notified addresses. The formal opening will take place on August 29th. Guests will be invited by the Government and also by the city of Budapest, which will issue to members of the Congress beautifully illustrated and bound souvenir books containing a description of the notable medical institutions of Hungary and views of Budapest and its suburbs.

The Budapest First Aid Society.

On May 10th the twentieth anniversary of the First Aid Society was celebrated. In connexion with this a National First Aid Congress has been held at Budapest, to which congress medical men, teachers, and police officials were invited. There was also a small exhibition arranged by the State railways, at which many modern improvements in railway ambulance cars and motor ambulances were shown. Dr. Geyer, chief police medical officer, delivered an address on the Policeman as Life-Saver.

"Ostanxin," a New Antirachitic Drug.

Dr. Furka has treated a number of rachitic cases with "ostanxin" (calcium paranucleinicum) made by the chemical works of Richter Gedeon of Budapest. Ostanxin is a fine, tasteless powder made from casein by a process of pepsin and hydrochloric acid digestion. It contains 17 per cent. calcium, 9 per cent. nitrogen, and 2½ per cent. phosphorus. As it is easily soluble in water, it can be readily given to children in milk, coffee, and other liquids. Its administration is especially indicated at first for rachitic and scrofulous children, for it helps the development of bones and promotes metabolism, as is proved by the increase of weight after a relatively short time. Dr. Furka has found it a useful tonic for patients convalescent after acute infectious diseases. Children generally take it without dislike, and the records of their weight have shown a noticeable increase in every case. Dr. Furka's cases were admitted into hospital from unhygienic dwellings, and such children enjoying in hospital fresh air and good food would have increased in weight probably without the exhibition of any drug. The drug has been administered in cases of renal hæmorrhage, too, on account of the calcium which it contains. As it was stated that after its administration the albumin excreted in the urine did not increase, whereas in some cases it decidedly decreased, larger doses of the drug have been given to patients. It never did harm to the patients. In some cases the bleeding has abated rapidly under its employment, while in other cases it had no effect at all. In renal complications of scarlet fever Dr. Furka used the drug with benefit. The dose of ostanxin is from one to two grammes three times a day.

The International Society of Medical Abstainers.

This society has issued a circular to Hungarian medical men with the following text:—

> The undersigned physicians of every country appeal to every ruler, government, and parliament, and all teachers, clergymen, and others who have at heart the well-being of the present and future generations.
>
> We, who are members of the medical profession and are particularly

of persons whose health was seriously damaged, often by tuberculosis, and to have substituted healthy persons at the medical examinations for policies.

The Treatment of Keloids by Radium.

At the Academy of Medicine on May 26th M. Wickham and M. Degrais communicated a paper upon the curative effects of radium, in continuance of earlier observations which had convinced them of the favourable effect of radium on epitheliomata of the skin and on vascular nævi. Their new work bears on the treatment of unhealthy scars. They exhibited a number of photographs showing scars, the results of tuberculous lesions, burns, and various injuries, which had disappeared or been greatly diminished in size, and others which showed the specific kind of action which radium exercises over keloids of various forms—for instance, præsternal and spontaneous keloids and those following on acne, anthrax, and scars of wounds. The authors laid stress on the painless and convenient method of application which the treatment permits and which renders it suitable for children of very tender age, and they add that some tumours disappear quietly without the necessity of securing a visible therapeutic reaction. They regard radium as having a selective curative affinity for such affections of the skin as epitheliomata, nævi, and keloids.

The Treatment of Deaf-mutes.

At the same sitting of the Academy of Medicine M. Castex described the training methods employed at the National Institution of Deaf-mutes in Paris. Oral education is relied on to the exclusion of all forms of apparatus, the pupil being trained by slow degrees by the senses of sight and touch to reproduce the movements of the teacher's lips and to emit more or less organised sounds. He gradually learns to read the lips as though they were a written book. The improvement in hearing and vocalisation takes place *pari passu*. As 25 per cent. of deaf-mutes have some trace of hearing M. Castex attempts to cultivate these traces by means of his natural voice. The voice attained by deaf-mutes is as yet monotonous and imperfect and workers in this field are trying to improve its musical quality. M. Castex based his remarks upon the examination of more than 1000 children which he has made during the last ten years.

Laryngotomy for Stenosis of the Larynx.

M. Sieur described this procedure at the Chirurgical Society on June 3rd. He performed laryngotomy on two patients with stenosis of the organ, one case having been caused by typhoid laryngitis and the other by diphtheria. It is necessary to keep the larynx open by fixing the edges of the thyroid wound to the skin. The results have been excellent. M. Broca supported the procedure, which he has also found a useful one, and M. Morestin declared that he would adopt it in future, having completely failed to relieve one of his patients by dilatation.

June 8th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Society for School Hygiene.

THE Swiss Society for School Hygiene, which now has 626 members and 110 associate members, held its ninth annual meeting on May 16th and 17th in the pretty little town of Baden near Zürich, well known for its sulphur springs. The meetings were well attended as a subject of general interest was discussed—namely, forest schools and forest recreation for school children. Dr. Kraft, medical school officer of Zürich, spoke on the medical side of the question, Mr. Hiestand on the educational side, whereas the mayor of Lausanne, M. Schuetzler, illustrated these lectures by narrating the practical experiences which they had already gained at Lausanne, a pioneer town in this new movement in Switzerland. These forest schools are intended for constitutionally weak children whose poor health renders them unfit for the usual school routine. They must be placed near the forests which abound in Switzerland and be fairly easy of access. Class-rooms, rooms for recreation, for rest (*Liegehallen*), rooms for meals, for baths, &c., are to be provided. The classes, which must not exceed 25 children, are to be placed under the continual supervision of the medical officer. The lessons are not to be more than half an hour at a time and altogether two hours per diem. The rest of the day is to be occupied by the simple and wholesome meals, recreation, rest, and baths (simple and saline). Much time can thus be devoted to strengthening the physique, developing the character, and to teaching punctuality, order, &c. The society unanimously adopted a proposition recommending education authorities, teachers, and parents to give every aid possible in instituting such forest schools. The society also resolved to hold a fortnightly course of instruction in the care of the young in September next in Zürich. The mornings are to be reserved for lectures which eminent lecturers, German, Austrian, and Swiss, have been invited to deliver; the afternoons will be devoted to visits at various institutions; in the evenings social meetings or meetings for discussion will take place. Later a similar course is to be held in French Switzerland. Dr. Guillaume, director of the Federal Statistical Bureau in Bern, spoke on the part which ladies should take in sanitary supervision of school children. Dr. Steiger of Lucerne gave a report on the school dental clinique established in that town. The great interest taken in Switzerland in school hygiene is evidenced by the fact that the Annals for 1907 contain 23 articles and lectures on the most varied subjects, including a lengthy report on the conference held in August in London, and that the Annals have now increased to a volume of over 600 pages.

Zürich, May 31st.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Optic Neuritis and the Inducement of Premature Labour.

Dr. Meissner at a recent meeting of the Gesellschaft der Aerzte brought up an important subject for discussion. A woman, aged 34 years, was three months advanced in her fifth pregnancy. She had had syphilis six years before and suffered from optic neuritis, which ultimately yielded to a combined iodide and mercury treatment. Two years later she became pregnant for the first time and her sight became very bad but after the birth of a healthy baby it improved, without, however, regaining its former acuity. Since then she had been pregnant three times and always when in this condition her eyes became worse, so that now she applied to the hospital to have premature labour induced in order to save her eyesight. She also complained that during the catamenia her sight generally was worse than at other times. The ophthalmic examination showed distinct signs of optic neuritis, some irregular astigmatism, and also concentric diminution of the field of vision; red was the only colour which she could recognise. The question for consideration was whether there was any connexion between the ocular disturbance and the pregnancy. Was the inducement of premature labour justified because of the possibility of permanent injury to the sight being caused by allowing pregnancy to progress to full term? The supposition that pregnancy alone was responsible for the neuritis must be repudiated, for the presence of syphilis had undoubtedly a great deal to do with it. Nevertheless, the treatment with iodide and mercury, to which the patient had been subjected for four weeks, had not done her any good, and the concentric diminution of the field of vision had increased. But this rather pointed to hysteria, not to an organic lesion. Therefore, in Dr. Meissner's opinion, one was justified in waiting before resorting to the operative measure. In the ensuing discussion it was pointed out by Professor Hochenegg that he had once observed in a pregnant woman an increase in size of the hypophysis cerebri, causing optic neuritis by pressure. This disappeared after the birth of the child, but left always a weakened eyesight. Professor Reuss had seen a similar case in which the patient had given birth to 16 children. She suffered during each pregnancy from bad sight, but the condition remained stationary after that, and when she died, 71 years old, she was not blind. Anyhow, such occurrences are not very frequent, otherwise gynæcologists would have reported them. It was decided in this particular case to wait for further development before complying with the patient's wish that labour should be induced.

Professor Toldt's Resignation.

At the end of this term Professor Toldt, the well-known anatomist, will resign his chair as director of the second anatomical institute in Vienna. He could teach for another two years, being only 68 years old, and 70 being the age limit, but he is overburdened with his scientific work, of these places is hardly known, panic having seized many of the miners who fly from one village to another. Many of the collieries have a scanty supply of water and the excessively dry season has dried up the wells. In ordinary circumstances the coolies are well housed and well looked after from a sanitary point of view, but on an occasion such as this the men become scared and leave their sick and dying friends and relatives without hesitation. It is even reported that in those parts where European control is less evident dead bodies have been found lying in dry nullahs and fields left to be devoured by vultures and dogs. In Calcutta the mortality from cholera has been rising rapidly week by week since the Great "Ardhodoya" Festival of Feb. 2nd. In the week ending Feb. 1st there were 24 deaths, in that ending Feb. 8th there were 104 deaths, and the numbers rose gradually until in the week ending April 25th there were 302 deaths. The native quarters, especially the northern part of the city, have been chiefly affected, but several Europeans have been attacked and 11 European deaths have been reported up to date. The prolonged dry weather has been accompanied with an unusually foul state of the river Hooghly and it is to this that the severity of the outbreak must be attributed.

"*Epidemic Dropsy.*"

The outbreak of "epidemic dropsy" which has affected Calcutta for the past eight months seems to be practically over. It has been much more severe than previous outbreaks and many of the cases were quite indistinguishable from beri-beri. Opinion in some quarters has changed with regard to the nature of this disease and there are several who now look upon it as an acute specific contagious disease probably identical with beri-beri. One observer puts the incubation stage at three days. There have been some small isolated outbreaks in other parts of Bengal, but these have been for the most part of a mild character.

Rinderpest in Karachi.

The manner in which the owners of cattle in Karachi, including even the superstitious milkmen, have come forward to secure immunity against rinderpest for their animals may be taken as another hopeful sign that the old objections to inoculation are dying out in the minds of the people. The struggle of medical science in India to overcome the prejudices of the people against inoculation has been a long and a difficult one, but now that a good start has been made with the help of the serum manufactured in Bombay the ravages of the plague should be checked materially.

Health of British Troops in India.

Attention has already been drawn to the highly efficient state of the army in India from a health point of view. When Surgeon-General Sir Thomas J. Gallwey, C.B., K.C.M.G., was specially selected to be principal medical officer of His Majesty's forces serving in India in January, 1902, he initiated what has since been proved to be the most thorough and practical reorganisation of the medical services of the army. His introduction of widespread sanitary improvements in barracks and cantonments has year by year improved the health efficiency of the army. Attention was also directed to enteric fever, malaria, and certain other diseases, each being taken in detail and met with the whole machinery of modern preventive medicine and treatment. Now that the complete statistics for 1907 are available it is satisfactory to observe that the admission-rate to hospital and the death-rate are the lowest on record for India, the former being 855·4 and the latter 8·15 per 1000, as compared with 871 and 10·43 per 1000 respectively in 1906. As regards invalids sent from India to the United Kingdom the figures are still more encouraging. In the trooping season of 1906-07 there were sent under this category to England 2015 sick and 75 insane; during the trooping season of 1907-08 just closed the figures were 1097 sick and 68 insane, or a decrease of 1015, which represents more than the strength of one complete regiment of infantry. There were also 126 fewer women sent home as invalids, and as their husbands have usually to accompany them the net gain to the army for all invaliding out of the country has been over 1100 men. An experiment was tried during the cold weather (trooping season) of sending weakly men to the hills instead of invaliding them to England. The hill stations in India possess an unrivalled climate in the winter months for many kinds of disease, the air being dry and extremely bracing, and the results of employing certain selected hill-stations as winter sanatoriums has been on the whole most satisfactory.

Building Regulations for Calcutta.

The building regulations for the city of Calcutta have been the cause of a great deal of trouble for some time past, and two or three attempts have been made to improve them. Unfortunately, and for no definite reason except economy, the post of city architect was abolished last year and the duties have since been placed in the hands of the district engineers. Apart, however, from this retrograde policy the building regulations are very faulty and permit the construction of most undesirable dwellings. The Government has at last appointed a special committee to amend these regulations. It is to be hoped that the post of city architect will be reinstituted, as even if all the district engineers were fitted for this work their time is so occupied with other duties that they cannot properly attend to it.

Death of Lieutenant-Colonel F. S. Peck, I.M.S.

Much regret has been felt in Calcutta and also in Behar at the death of Colonel F. S. Peck, I.M.S. During his leave in England last summer he met with a serious accident, being being knocked down by a train at Sheringham while he was crossing the railway in going the round of the golf links. He had a marvellous escape, as the whole train passed over him, but he sustained severe injuries to the head. He recovered sufficiently to return to India early in November, but his health broke down in Calcutta and he was invalided home last month. Colonel Peck was not only a distinguished surgeon but a keen polo and racquet player and in Behar he was emphatically the right man in the right place.

May 14th.

Obituary.

JOHN JAMES RIDGE, M.D., M.D. (STATE MEDICINE), B.A., B.S., B SC. LOND., M.R.C.S. ENG., &C.

WE regret to announce the death of Dr. John James Ridge of Carlton House, Enfield, Middlesex. For the last year or two Dr. Ridge had, now and again, seemed to feel the stress of his practice and of the much outside work which he was doing, but hitherto after a short rest and a walking tour in this country or abroad his health and energy have appeared to his outside friends thoroughly to be restored. Some months ago, however, Dr. Ridge asked the council of the British Medical Temperance Association to relieve him of the duties of secretary, and to this request that body felt compelled to accede. At the meeting at which this resignation was accepted Dr. Ridge was nominated a member of council and vice-president of the association. Dr. Ridge was then confined to bed. Afterwards for some time his condition appeared to improve but a sudden change for the worse supervened, and although everything was done that skill and affection could devise the end came on Monday, May 25th.

In Dr. Ridge's strenuous and unselfish life many men have found an example and incentive such as are offered by the lives of few men, even in our profession. Born at Gravesend, of which borough his father was twice mayor, John James Ridge was educated at the City of London School where he took the Tite scholarship at St. Thomas's Hospital. Entering this hospital in 1864 he carried on his studies for his degrees in arts and science and for his medical diploma and degree at the same time. At the age of 19 he graduated B.Sc., in the following year B.A., and in the year following that he obtained the diplomas L.R.C.P. Lond. and M.R.C.S. Eng., and the degrees M.B., B.S., in the University of London, being awarded the University scholarship in surgery, with scholarship and gold medal. In 1869, the year after taking his M.B. degree, Dr. Ridge graduated M.D. and then again in 1891 took the M.D. degree in State Medicine. After holding the appointment of house surgeon at St. Thomas's Hospital Dr. Ridge entered on private practice at Clapham where he made a number of life-long friends. He there commenced that work with which his name will ever be associated, and, with Mr. J. T. Rae, engaged in temperance work amongst the children of the district, working at Grafton-square Congregational Church, in connexion with which a Band of Hope was carried on. The opportunity of taking up the practice of the late Dr. Godfrey soon presented itself and Dr. Ridge left his Clapham practice able, on ground of our studies, to judge and recognise the effects of alcoholic beverages, consider that it is definitely proved that all alcoholic beverages are entirely superfluous and harmful in a high degree, and that all diseases arising from the consumption of alcohol can and must be exterminated. *Before all things we must teach the rising generation and educate it by our own example in abstaining from alcoholic beverages, besides defending them by legislation.* We consider this action to be necessary for the health of mankind, and to promote and insure the happiness and well-being of the people.—(Signed) Dr. Holitser of Pirkenhammer, Dr. Santesson of Stockholm, Dr. Ridge of London, Dr. Laitinen of Helsingfors, Dr. Olrik of Frederiksvaerk, Dr. Stein of Budapest, Dr. Vogt of Christiania.

June 8th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Regulation of Medical Experts.

THE recent discreditable exhibitions of medical expert testimony in the courts of New York have led to a conference of a committee of the Academy of Medicine with a similar committee of the Bar Association for the purpose of devising a system of employment of medical experts which should render their testimony non-partisan and thoroughly trustworthy. The following scheme is proposed. At any time in the pendency of any civil proceeding in any court in which any medical or surgical question is likely to be material, the court or any justice thereof may, or at the request of either party shall, appoint from the list made up as hereinafter provided, one or more persons learned in the science of medicine and surgery, and of not less than seven years' actual practice, as official experts, who shall investigate the facts of the case and give their opinion upon any such question arising in such proceeding, and make written report thereof to the court. The list of names of members of the medical profession, qualified as experts, and recommended to the courts, shall be made by the Academy of Medicine for the courts of New York City and by the Medical Society of the State of New York for the courts in the rural districts. When an expert is summoned in a case by order of the court he shall forthwith make such examination of the case as in his judgment may be necessary and practicable and make written report thereof to the court. Such report shall be open to the inspection of either party and may be read in evidence, and such expert may be called as a witness by either party at the trial. The measure provides that either party at the trial may call other expert witnesses, but at his own expense.

Paresis a Germ Disease.

At the recent annual meeting of the American Medico-Psychological Association Dr. O'Brien, of the Massillon State Hospital, Ohio, made the announcement that at the laboratory of that institution the germ of paresis has been discovered and its effects have been demonstrated. He stated that while in an experimental stage sufficient tests had been made to show that paresis is curable and that he had specific cases to point to as definite results. Dr. O'Brien reported several cases of cure and referred to several asylum superintendents who had used the remedy with favourable results. He began his experiments by taking serum from the spinal canal of living patients and experimenting with it on dogs, rabbits, and rats. The report was received with much incredulity and needs authentic verification.

An Association of Milk Commissions.

A permanent organisation known as the "American Association of Medical Milk Commissions" has been formed. The purpose of the association is to federate and to bring into one compact association the medical milk commissions of the United States; to exchange views and to adopt uniform methods of procedure in the work of securing to communities pure milk; to fix chemical and bacteriological standards; to determine the scope of veterinary inspections; and to foster and to encourage the establishment of medical milk commissions throughout the country. It is believed that once established each milk commission would become a potent factor in the community and would stimulate the efforts of local boards of health and thus eventually raise the quality of the total supply.

Abolition of the Tuberculin Test for Tuberculosis among Cattle.

The enormous destruction of cattle due to the use of the tuberculin test has led to universal protests of farmers against its exclusive use in the diagnosis of tuberculosis in their herds. The result is a radical reform on the part of the Superintendent of Agriculture of New York and some other States in the treatment of cattle. The changed methods will prove of immense importance not only in saving cattle but in protecting the people from the use of diseased milk and meats. The superintendent proposes to apply the usual physical tests in diagnosis and to use tuberculin in doubtful cases only. The remedies employed are to be strictly hygienic and not the slaughter of the affected cattle, except in extreme cases. The affected cattle are to be carefully isolated from the herd, to be properly fed and housed in clean, well-ventilated stables, or pastured on elevated grounds. In general cattle suffering from tuberculosis are to be treated on the same principles as human beings suffering from that disease are treated. Inspectors of herds are to be appointed who are skilled in the diagnosis of tuberculosis in cattle; the farmers are to organise for conference; and stations are to be created where farmers can obtain the advice and aid of the State Inspecting Corps at all times. The new *régime* of dealing with bovine tuberculosis is very popular with farmers and there is satisfactory proof that the sanitation of dairies is to be carried to a high degree of perfection.

The Philippine Islands Medical Association.

This association is composed largely of United States army officers serving in those islands. It recently held its fifth annual meeting in the rooms of the Philippine Medical College at Manila. The sessions were well attended and among the invited guests were the health officer of the British colony of Hong Kong, Dr. Francis W. Clark; Professor Kitajima of the Infectious Disease Institute, Japan; and Dr. Cheng Hao, delegate from His Imperial Chinese Majesty's Government. A large number of interesting papers were read, the subjects being observations, investigations, and experiences relating to the diseases of the islands. The value of this association in a better understanding of the diseases of that country will prove incalculable. One of the papers on the recent epidemics of cholera by Dr. Heiser, director of health for the Philippine Islands, will prove of great service to the local authorities in future efforts to prevent the prevalence of that destructive pestilence. He states that cholera in the provinces always has its origin in Manila; that the cholera organism is continuously present in some form in the sewer system of Manila; that this organism is conveyed, directly or indirectly, from the sewers to easily contaminated articles of food or drink by cockroaches, flies, water-bugs, and other vermin; and that the disease extends from Manila by means of contaminated foods. By thus localising the germ of the epidemic in the sewers he makes plain the remedy to be applied.

The Cause of Milk sickness or "Trembles."

Much was written about a disease among pioneers in the settlement of this country which was attributed to the milk of cows which were affected by a disease called the "trembles" from one of its most prominent symptoms. When the human subject was seized with this disease it was called "milk-sickness," as it was supposed to be derived from milk from the diseased cow or the meat taken after the animal was slaughtered. The disease seemed to be confined to certain localities as along some rivers and streams. It has never been known east of the Alleghany mountains. Recently it was found to be present in the valley of the Pecos river, New Mexico, over 1000 miles from its previous locality. By the aid of a grant from the Institute for Infectious Diseases, Chicago, Professor Edwin O. Jordan, of the bacteriological department of Chicago University, and his assistant visited the locality for the purpose of investigating the cause of this peculiar disease. They were able to carry on a series of studies which resulted in the discovery of what they regard as the germ and this they have termed "B. lactimorbi." The disease produces degenerative changes in the myocardium, the liver, and kidneys, mostly of a fatty nature.

May 26th.

INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Cholera in Lower Bengal.

THE outbreak of cholera in Lower Bengal has assumed large proportions. Not only has Calcutta been attacked but the Jherria coal-fields with their large populations of coolies have been seriously affected. The actual mortality in some architecture and marine engineering at the University of Tokio, Japan. There are 24 grandchildren and nine great grandchildren surviving. The interment took place at Nunhead Cemetery on June 3rd and was attended by numerous relatives and friends, and representatives from all the various bodies with which he had been connected.

WILLIAM KING BULLMORE, M.D. ST. AND., M.R.C.S. ENG., L.S.A.

DR. W. K. Bullmore, the eldest son of the late Dr. F. C. Bullmore, died at his residence at Falmouth on June 4th, aged 74 years. Dr. Bullmore received his early education at Falmouth Grammar School and afterwards entered at Middlesex Hospital. In 1857 he became a Member of the Royal College of Surgeons of England and a Licentiate of the Society of Apothecaries. In 1859 he took the M.D. of St. Andrews and afterwards returned to Falmouth where he commenced practice by assisting his father. The deceased, who was a Fellow of the Royal Institute of Public Health and a member of the British Balneological and Climatological Society, had held several public appointments, among them being surgeon in charge of troops at Pendennis Castle and medical officer of health of Falmouth and Truro port sanitary authority. He was surgeon-major in the 1st Cornwall Volunteer Artillery. Dr. Bullmore was a keen sportsman, a yachtsman, and an ornithologist, his collection of Cornish birds being a very fine one. He was the author of "Vertebrata in Cornwall," for which book he received the bronze medal of the Royal Cornwall Polytechnic Society in 1866.

DAVID THOMPSON, L.R.C.P., L.R.C.S. EDIN., L.S.A., J.P.,

CORONER FOR THE COUNTY OF CORNWALL.

Mr. David Thompson died at his residence, "Dunstowe," Launceston, Cornwall, on May 27th, in his seventy-seventh year, from syncope. The deceased, who at one time had a very extensive practice at Launceston, was appointed county coroner 19 years ago. He was also a very enthusiastic Volunteer, having joined in 1859, and at the time of his resignation he was brigade-surgeon-lieutenant-colonel of the Plymouth Brigade. He was a county and borough magistrate. Mr. Thompson was for many years an alderman of Launceston borough council, and on one occasion filled the mayoral chair. He celebrated his golden wedding on Feb. 7th, 1906. Mr. Thompson was most popular in Launceston and was highly esteemed. He leaves a widow and one son and two daughters, with whom much sympathy is felt.

The funeral took place at Launceston on June 5th. It was attended by the mayor, members of the corporation, borough officials, members of the local lodge of Freemasons, and others.

SURGEON-GENERAL SIR JAMES ARTHUR HANBURY, K.C.B., M.B. DUB., F.R.C.S. ENG. & IREL. (HON.), A.M.S. (RETIRED).

THE death occurred at Bournemouth on June 2nd, at the age of 76 years, of Surgeon-General Sir James Arthur Hanbury, K.C.B., who served in the Afghan war of 1878–80 and took part with the expedition into the Bazar Valley, being mentioned in despatches. He also accompanied Sir Frederick Roberts in the march to Candahar and was present at the battle of Candahar. Besides being mentioned in despatches he received the C.B., and the medal with clasp, and bronze decoration. As principal medical officer he served in the Egyptian war of 1882 and was present at the battle of Tel-el-Kebir. Twice mentioned in despatches, he was awarded the K.C.B. and also received the medal with clasp, the Second Class of the Medjidieh, and the Khedive's star. Sir James Hanbury graduated M.B. of Dublin in 1853; he was elected (as a member of 20 years' standing) F.R.C.S. Eng. in 1887 and honorary F.R.C.S. Irel. in 1883. The funeral took place at Bournemouth on June 7th.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. William Wright, formerly professor of materia medica in the McGill University, Montreal.—Dr. W. H. Earles, professor of surgery in the Milwaukee Medical College.—Dr. Gigli of Florence, whose name is known in connexion with the operation of hebotomy.

Medical News.

TRINITY COLLEGE, DUBLIN.—At examinations held in Trinity term the following obtained the Diploma in Public Health:—

Part I.—George E. Nesbitt, Thomas O. Graham, Richard G. S. Gregg, and William R. Galwey.

Part II.—George E. Nesbitt, John A. Pringle, William R. Galwey, and Thomas O. Graham.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Eduard Sonnenburg has been promoted to an honorary Professorship of Surgery. Dr. Helbing has been appointed to take charge of the University Policlinic for Orthopædic Surgery. Dr. Max Lewandowsky, *privat docent* of Physiology, has been granted the title of Professor. The title of Professor has been conferred on two private practitioners who are unconnected with the teaching staff of the University, viz.: Dr. Oskar Zeller and Dr. Alexander Czempin.—*Ghent:* Dr. de Nobele and Dr. Gommaerts have been appointed Instructors in the newly established Institute of Physio-therapeutics.—*Göttingen:* The lectures on Pharmacology will be delivered during the present semester by Professor Schwenkenbecher of the Medical Policlinic.—*Kharkoff:* Dr. Panski has been appointed to the chair of Clinical Surgery.—*Lemberg:* Dr. Jurasz has been appointed Extraordinary Professor of Laryngology.—*Moscow:* Mdlle. Viera Danchakoffa has been recognised as *privat-docentin* of Histology, being the first lady recognised by any Russian University.—*Munich:* Dr. Ibrahim of Cairo and Heidelberg has been recognised as *privat docent* of Children's Diseases.—*Naples:* Dr. Clemente Romano has been appointed Extraordinary Professor of Orthopædic Surgery.—*Pavia:* Dr. Aldo Cerneri has been recognised as *privat docent* of External Pathology. Dr. Stefano Lodovico D'Este has been recognised as *privat docent* of Surgery.—*Pisa:* Dr. Amilcare Panella has been recognised as *privat-docent* of Physiology. Dr. Vittorio Grazzi has been appointed Extraordinary Professor of Otology and Laryngology.—*Rio de Janeiro:* Dr. Prowazek and Dr. Giemsa of Hamburg have been engaged by the Brazilian Government for duty at the Hygienic Institute.

THE UNIVERSITY OF LONDON AND KING'S COLLEGE, LONDON.—The Bill transferring to the University of London the powers and duties of King's College, London, "in relation to instruction of a University standard in subjects comprised within the Faculties in the University other than the Faculty of Theology," was considered recently by the Select Committee of the House of Commons on Unopposed Bills. Sir Arthur Rücker, principal of the University of London, and the Rev. Dr. Headlam, principal of King's College, joined the committee in considering the report of the Attorney-General on the Bill, and after some debate it was decided to impose a conscience clause for the protection of students attending King's College. Sir Arthur Rücker having given formal proof of the allegations in the preamble the committee passed the Bill and ordered it to be reported with amendments for third reading.

MOTOR ACCIDENTS IN THE EAST-END OF LONDON.—At the last meeting of the Stepney borough council held on June 3rd the following resolution was ordered to be sent to the Home Secretary and to the Commissioner of Police: "That, owing to the increasing number of accidents caused by motor traffic in the county of London, the maximum speed of all motor and other vehicles should be reduced at most to ten miles an hour, and owing to the serious annoyance and discomfort caused by excessive noise, vibration, &c., the police should be granted enlarged powers to control this class of traffic." The action of the Stepney borough council has no doubt been determined by the unfortunate accident which happened a few days ago when a child, aged three years, was killed in a motor omnibus accident. Eye-witnesses, who included a policeman, stated at the inquest that the child was one of three who attempted to cross the road when the omnibus was about to pass. When they saw the omnibus coming towards them all three ran in different directions. The driver gave ample warning, did all he could to avoid the accident, and succeeded in keeping clear of two of the children, but the third was caught by the front of the vehicle and killed. The omnibus was travelling at a speed of about six to eight miles an hour. The jury returned a verdict of and settled down at Enfield where he soon acquired the confidence and affection of a large circle of patients. Later he became medical officer of health of the Enfield urban district council and medical superintendent of the Enfield and Edmonton joint isolation hospital. His reports sent out from this latter hospital hold an important place in statistical literature. One of Dr. Ridge's chief interests, however, was the London Temperance Hospital in Hampstead-road. The first patient was admitted to this hospital on Oct. 6th, 1873, Dr. James Edmunds and Dr. Ridge then constituting the staff. Dr. Ridge was physician to the hospital for 25 years and took a very prominent part in determining the policy and carrying on the organisation and development of the institution, so that when he retired its success was assured. The work of this hospital still continues to increase in importance and its staff in strength.

Dr. Ridge was one of the finest of a fine type, the English practitioner of medicine. A sound and sympathetic physician, a skilled surgeon, a Christian gentleman, keenly interested in the welfare of his fellows, his name will be remembered not merely in Enfield and for his distinctly medical work but throughout the country, nay throughout the civilised world, for his enthusiastic and rational advocacy of the temperance question. Associated with Sir G. Burrows, Dr. James Edmunds, and the late Sir Benjamin Ward Richardson in the formation of the British Medical Temperance Association, Dr. Ridge acted as secretary of that association up to within a very short time of his death. He was ever on the outlook for the best means of advancing its work and one of the last efforts which he made was to organise a number of local centres in order that the interest of the members should be as concentrated as possible.

The *British Medical Temperance Review*, the direct descendant of the *Medical Pioneer*, which he edited, and the *Medical Temperance Journal*, to which he contributed, was his constant care. No trouble was too great if good articles could thereby be obtained and good reports of meetings and trustworthy abstracts of scientific papers offered to the readers of the *Review*. The association and the *Review* have been made models on which similar societies and papers have been founded in foreign countries and in our colonies and Dr. Ridge has been the moving spirit in both. No man in this country was better known or more thoroughly esteemed and admired by medical abstainers abroad than was Dr. Ridge, and it was but fitting that when it came to the election of a president for the New International Medical Temperance Association, founded in Stockholm last July, the choice of the association should fall on Dr. Ridge, a nomination that was carried with acclamation. Although engaged in active practice Dr. Ridge always seemed to be able to find time to take part in any public movement that stirred his imagination or roused his sympathy. Politics, religion, social movements, art, and literature all had their attractions for him; indeed, no one could be with him for even a short time without feeling that every thought and action of the man had its origin in his religion and its direction in his culture. A man of broad sympathies, grand courage, strict integrity, and very human, he gradually but surely gained the confidence and affection of those with whom he came into close touch. A certain shyness and nervousness of manner were sometimes misleading to those who met him but casually. These, however, soon disappeared as acquaintance improved. His strong convictions and his cold logical manner of putting his case naturally made him some enemies, but even those who did not agree with him ultimately came to respect both the man and his convictions.

At the funeral service at Christ Church, Enfield, the note struck throughout was one of triumph. The many friends from all ranks who came to pay their last respects to the "dear doctor" grieved at their loss but rejoiced that they had been privileged to enjoy his friendship.

The following resolution was passed at a meeting of the executive committee of the National Temperance League held on May 28th:—

That the Executive Committee of the National Temperance League have heard with deep regret of the death of Dr. J. J. Ridge, who has been a Vice-President of the League for over 16 years. They desire to place on record their high appreciation of the valuable services which Dr. Ridge has unostentatiously rendered to the temperance cause. first by his active coöperation with the League in its early efforts to influence the medical profession and with the late secretary of the League in his editing of the *Medical Temperance Journal* for 20 years; and secondly by his devoted labours as honorary secretary of the British Medical Temperance Association, of which he was the founder.

PRIOR PURVIS, M.D.LOND., M.R.C.S.ENG., L.S.A.

WE have already recorded the death of Dr. Prior Purvis of Blackheath, the doyen of the University of London, in his ninety-sixth year. In May, 1907, he began to suffer from retention of urine due to an enlarged prostate gland, and as at his age it was not deemed advisable to operate the obstruction gradually increased, requiring the frequent use of the catheter. A fortnight before his death he had severe prostatic hæmorrhage which lasted two or three days, and although this was controlled it left him so enfeebled that he sank and died on May 29th.

Prior Purvis was born at Greenwich on Oct. 31st, 1812. He was educated at "Stockers," at the time a well-known school in Poplar. At the age of 15 years he was apprenticed to Mr. Cornwall, a surgeon in large practice at Fairford, Gloucestershire, and he was very fond of telling tales of those days and how the country labourers would come in crowds in the spring and fall to be "blooded," and how at those times the surgery would resemble a shambles. He was one of those who believed in the change in type of disease, as he was sure that then bleeding did good, whereas now he was equally convinced that it would do nothing but harm. He was also one of those who thought that it was a pity to have given up apprenticeship and used to say that in the old days the medical student learnt his profession before he came to London, but now he enters the hospital entirely ignorant, as a rule, of professional work. In London Purvis studied at the Borough Schools (combined Guy's and St. Thomas's) and in due course took his L.S.A. in 1834 and M.R.C.S.Eng. in 1835; in 1839 he passed the M.B. at the newly established University of London and proceeded to the M.D. in 1842, being amongst the first batch who presented themselves for that degree. He settled in his native town of Greenwich, afterwards removing to Blackheath, and soon obtained a large practice. He took an active part in public works to which he devoted a very considerable portion of his time, being a member of the old vestry, where he was foremost in promoting new projects such as the establishment of the baths and washhouses, under the Baths and Washhouses Act. He was one of the founders of the Mechanics' Institute, delivering some of the earlier lectures himself; he was made acting trustee and treasurer from the first and retained the position until the affairs of the lecture hall, as it was then called, were wound up and the building was sold to the borough council in 1900 to become the Borough Hall. He was also one of the founders and for many years chairman of the Industrial Permanent Benefit Building Society, Greenwich, holding this position at his death; and he was one of the original governors of the Roan School and a Commissioner of Taxes. A Liberal in politics and of a somewhat combative nature he threw himself into all the great political questions of the day, notably that of the admission of the Jews into Parliament. He strongly supported Alderman (afterwards Sir David) Salomons in his Parliamentary candidature and for years was chairman of his Parliamentary committee. The same liberal bent of mind caused him strongly to support the admission of women into the ranks of the medical profession and several of the present medical women have frequently expressed their gratitude to him for his efficient help in their early struggles.

Dr. Purvis took a leading part in the establishment of the West Kent Medico-Chirurgical Society, being its treasurer from its initiation in 1856 till increasing years and infirmity caused him to resign in 1897. On his resignation the members presented him with a very handsome china clock and pair of vases. Two years before his resignation an oration in his honour was instituted, to be delivered annually at the meeting in December by some distinguished member of the profession, to be called the Purvis Oration. Since then the orators have been Mr. Arthur Durham, Dr. John Curnow, Professor G. Sims Woodhead, Dr. A. E. Sansom, Sir Victor Horsley, Dr. Vivian Poore, Dr. J. F. Goodhart, Mr. Anthony A. Bowlby, Dr. J. Rose Bradford, Mr. J. Bland-Sutton, Mr. Jonathan Hutchinson, Mr. A. W. Mayo Robson, and Dr. J. S. Risien Russell. He was also a vice-president of the Medical Defence Union.

Dr. Purvis married in 1840 and celebrated his diamond wedding in 1900; his wife predeceased him, dying in July, 1907. They had ten children, seven of whom survive (two sons and five daughters). The eldest son, John Prior Purvis, has been his partner in the practice for 40 years; his other son, Frank Prior Purvis, is professor of naval *such as that of a works doctor or medical officer of a workmen's club or any regular employment from an accident insurance company, which might cause him to be regarded as representing the interests of any party in cases arising under the* Act. The case of certifying surgeons who are primarily appointed for duties under the Factory Act stands on a somewhat different footing and no similar condition is imposed. I have made inquiries, however, of the certifying surgeons in the Potteries district and am informed by them that they do not hold appointments from the Potteries Insurance Company and do not investigate on behalf of the company cases of suspected lead poisoning or attend the directors' meetings. It appears that in pursuance of an arrangement made before the passing of the Workmen's Compensation Act, 1906, in connexion with the scheme of insurance in the special rules the certifying surgeons have made weekly examinations of operators who had been suspended by them under the rules and furnished the worker with a certificate of his condition. There have been very few appeals so far against the determination of certifying surgeons—in the first nine months ten, of which two only referred to lead cases—and I cannot say whether the certifying surgeon has appeared before the referee or not. The certificate of the surgeon which is appealed against has, under the Secretary of State's rules, to be submitted to the referee, who is also required to consider any statements made or submitted by either party. If either party wishes to submit any explanation by the certifying surgeon of the grounds for his decision I do not think that could properly be prevented. As regards the point raised by my right hon. friend in the penultimate sentence of the question, this is already provided for, as above stated, in the case of medical referees, and as regards certifying surgeons it has not escaped my consideration. It would not, however, be possible to lay down a strict rule because in industrial districts it is often difficult to find a well-qualified medical man who does not hold some appointment from employers or associations of workpeople. The question would be outside the scope of the reference to the Lead Committee, but I shall be happy to inquire into any case of grievance which may have come to the notice of my right hon. friend.

The Public Health (Regulations as to Food) Act.

Mr. Morton asked the President of the Local Government Board to state when it was proposed to issue the regulations under the Public Health (Regulations as to Food) Act.—Mr. Burns: I hope shortly.

THURSDAY, JUNE 4TH.

The Regulation of the Milk-supply.

Mr. Snowden asked the President of the Local Government Board whether he was yet in a position to say when he hoped to introduce the promised Bill for the better regulation of the milk-supply.—Mr. Burns replied: I cannot at present fix a date for this purpose.

Mr. Watt also asked the Secretary for Scotland whether the Bill dealing with milk, which was to be introduced for England and Wales by the Government, would apply to Scotland.—Mr. Sinclair said: The answer is in the negative. I may add that legislation for Scotland, which is under separate administration, is under consideration.

The Inebriates Acts in Scotland.

Mr. Watt asked the Secretary for Scotland whether it was his intention to appoint a Scottish Commission to inquire into the working in Scotland of the Inebriates Acts; and, if so, when he would make the appointments.—Mr. Sinclair replied: The matter is engaging my close attention and I hope to be able to make an announcement at an early date.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox, 8, Henrietta street, Covent Garden, London, W.C.

A Manual of Diseases of the Eye. By Charles H. May, M.D., New York, Chief of the Eye Clinic, Columbia University, New York, 1890-1903; Ophthalmic Surgeon to the City Hospitals, the French Hospital, the Red Cross Hospital, and the Mount Sinai Hospital, New York; and Claud Worth, F.R.C.S. Eng., Consulting Ophthalmic Surgeon to the West Ham and East London Hospital, Assistant Surgeon to the Royal London Ophthalmic Hospital, Moorfields. Second edition. Price 10s. 6d. net.

Physical Signs of Diseases of the Thorax and Abdomen. By James E. H. Sawyer, M.A., M.D. Oxon., M.R.C.P. Lond., Casualty Assistant Physician and Medical Registrar, the General Hospital, and Physician to Out-patients, the Children's Hospital, Birmingham. Price 5s. net.

The Treatment of Gonorrhœa in the Male. By Charles Leedham-Green, M.B., F.R.C.S., Surgeon to the Queen's Hospital, Birmingham, Surgeon to the Birmingham and Midland Hospital for Children, Consulting Surgeon to the Birmingham General Dispensary. Second edition. Price 5s. net.

Butterworth and Co., 11 and 12, Bell Yard, Temple Bar, London.

The Diseases of Workmen. By T. Luson, M.D., and R. Hyde, M.R.C.S. With an Introduction by His Honour Judge Ruegg, K.C. Price not stated.

Cassell and Company, Limited, London, Paris, New York, Toronto, and Melbourne.

Clinical Methods. A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., F.R.C.P., Physician to the London Hospital, and Assistant Physician to the Hospital for Sick Children, Great Ormond-street; and Harry Rainy, M.D., F.R.C.P. Ed., F.R.S.E., Assistant Physician to the Royal Infirmary, Edinburgh. Fourth edition, thoroughly revised. Price 10s. 6d.

Chemist and Druggist, The, Offices of, 42, Cannon-street, London, E.C.

The Art of Dispensing. Eighth edition (revised and enlarged). By Peter MacEwan, F.C.S., Pharmaceutical Chemist, Editor of "The Chemist and Druggist." Price not stated.

Churchill, J. and A., 7, Great Marlborough-street, London, W.

Uric Acid as a Factor in the Causation of Disease. By Alexander Haig, M.A., M.D. Oxon., F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women; late Casualty Physician to St. Bartholomew's Hospital. Seventh edition. Price 14s. net.

Fischer, Gustav, Jena.

Die Spezielle Chirurgie in 60 Vorlesungen. Kurzgefasstes Lehrbuch für Aerzte und Studierende. Von Dr. Edmund Leser, Professor an der Universität in Halle, Mitglied der Kaiserlichen Leopoldino-Carolinischen Deutschen Akademie der Naturforscher. Achte vermehrte und verbesserte Auflage. Price M. 24; geb., M.26.50.

Franke und Scheibe, Hamburg, 8.

Medizinisches Literatur und Schriftsteller-Vademecum, 1907-08. Herausgeber: H. Albert, Bibliograph. Price not stated.

Frowde, Henry, and Hodder and Stoughton, Warwick-square, London, E.C.

Oxford Medical Publications. The Operations of General Practice. By Edred M. Corner, M.A., M.C., M.B. Cantab., B.Sc., F.R.C.S., Surgeon in Charge of Out-patients at St. Thomas's Hospital and to the Children's Hospital, Great Ormond-street; Consulting Surgeon to the Wood Green and Purley Hospitals; formerly Erasmus Wilson Lecturer to the Royal College of Surgeons; and H. Irving Pinches, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Clinical Assistant to the Children's Hospital, Great Ormond-street, late House Surgeon and Obstetric House Physician to St. Thomas's Hospital. Second edition, revised and enlarged. Price 15s. net.

The Law in General Practice. Some Chapters in Every-day Forensic Medicine. By Stanley B. Atkinson, M.A., M.B., B.Sc., of the Inner Temple, Barrister-at-law; Justice of the Peace for the County of London; Member of the Central Midwives' Board; Hon. Secretary of the Medico-Legal Society (London). Price 7s. 6d. net.

A System of Syphilis. In Six Volumes. Edited by D'Arcy Power, M.B. Oxon., F.R.C.S., and J. Keogh Murphy, M.D., M.C. Cantab., F.R.C.S. With an Introduction by Jonathan Hutchinson, F.R.S. Vol. I. Price 2 guineas net per volume.

King, P. S., and Son, Orchard House, Westminster.

National Conference on Infantile Mortality. Report of the Proceedings of the National Conference on Infantile Mortality, held in the Caxton Hall, Westminster, on March 23rd, 24th, and 25th, 1908. President, Right Hon. John Burns, M.P., President of the Local Government Board. Price 1s. 6d. net.

Lewis, H. K., 136, Gower-street, London, W.C.

Experimental Researches on Specific Therapeutics. By Prof. Paul Ehrlich, M.D., D.Sc. Oxon., Director of the Königliches Institut für Experimentelle Therapie, Frankfort. The Harben Lectures for 1907 of The Royal Institute of Public Health. Price 2s. 6d. net.

Lindley, Percy, 30, Fleet-street, London, E.C., and 12a, Regent-street, London, W.

The Great Eastern Railway Company's Tourist Guide to the Continent. Edited by Percy Lindley. Illustrated, and with Maps. Price 6d.

Lippincott (J. B.) Company, Philadelphia and London.

Righthandedness and Lefthandedness. With Chapters treating of the Writing Posture, the Rule of the Road, &c. By George M. Gould, M.D. Price not stated.

Livingstone, E. and S., 15, Teviot-place, Edinburgh.

Handbook of Medicine and Therapeutics. By Alexander Wheeler, L.R.C.P. & S.E., and William R. Jack, B.Sc., M.D., F.F.P.S.G., Assistant to the Professor of Practice of Medicine, Glasgow University; Assistant Physician to the Western Infirmary of Glasgow. Third edition. Price 8s. net.

Longmans, Green, and Co., 39, Paternoster-row, London, E.C. (Charity Organisation Society, Denison House, Vauxhall Bridge-road, London, S.W.)

The Annual Charities Register and Digest. Seventeenth edition. By C. S. Loch, Secretary to the Council of the Charity Organisation Society, London. Price 5s. net.

Macmillan Company, The, New York. (Macmillan and Co., Limited, London.)

The Mother's Year-book. Being a Practical Application of the Results of Scientific Child-Study to the Problems of the First Year of Childhood. By Marion Foster Washburne, Author of "Family Secrets," &c. Price 5s. net.

Oliphant, Anderson, and Ferrier, Edinburgh and London.

The Origin and Nature of Man. By S. B. G. McKinney, M.A., L.R.C.P. Edin. Parts II. and III., Evolution. Price 1s. net.

Rebman, Limited, 129, Shaftesbury-avenue, London, W.C.

Electric Ions and their Use in Medicine. By Professor Stephane Leduc, Professeur at the School of Medicine at Nantes. Translated by R. W. Mackenna, M.A., M.B., Ch.B. Edin., Physician to the Liverpool Skin Hospital. With an Appendix by the Translator. Only Authorised Translation from the French Edition. Price 2s. 6d. net.

The Theory of Ions. A Consideration of its Place in Biology and Therapeutics. By William Tibbles, M.D. (*Hon. Causâ*), Chicago, LL.D., L.R.C.P.E., M.R.C.S., L.S.A., &c., author of "Food and Hygiene," &c. Price 2s. 6d. net.

Steinheil, G., 2, Rue Casimir-Delavigne, Paris.

Leçons de Clinique Obstétricale. Par le Dr. Queirel, Professeur de Clinique Obstétricale à l'École de Médecine et de Pharmacie de Marseille, Membre Correspondant de l'Académie de Médecine. Troisième Série. Price Fr.6.

Tip. Editrice S. Bernardino, Siena.

Di una Forma di Splenoadenopatia Cronica dovuta ad un Bacillo Sottile. Studio clinico, batteriologico e sperimentale del Dott. Guido Ferrarini, Aiuto e libero docente. Price not stated.

Treat, E. B., and Co., 241-243, West 23rd-street, New York.

Transactions of the American Pediatric Society. Nineteenth Session held at the Arlington Hotel, Washington, D.C., on May 7th, 8th, and 9th, 1907. Edited by Linnæus Edford La Fetra, M.D. Volume XIX. Reprinted from Archives of Pediatrics, 1907-1908. Price not stated.

"Accidental death," exonerating the driver of the omnibus from blame. Local feeling has, however, run so high that a riotous demonstration against motor omnibuses has been made in Mile End-road.

GOLF: CHURCH *v.* MEDICINE.—An interesting match was played at Bristol on June 3rd between local golfers representing the clergy of the Church of England and members of the medical profession. The match resulted in a win for the latter by 8½ points to 4½.

THE summer dinner of the West African Medical Staff will take place on June 22nd next at the New Gaiety Restaurant, Strand, London. Any medical officers who have not yet received an intimation should communicate without delay with Dr. W. T. Prout, 78, Rodney-street, Liverpool.

DONATIONS AND BEQUESTS.—By the will of Mr. F. A. Smith of Ashby-de-la-Zouch the Nottingham General Hospital will receive £1000. Mr. R. H. Wood of Sidmouth and Pantglas bequeathed £1000 to the West of England Eye Infirmary at Exeter for the endowment fund and a like sum to the Devon and Exeter Hospital. Miss E. Henry has given a donation of £1000 to the Northampton Hospital as a memorial to her brother, the late Mr. W. J. Henry.

FRIEDENHEIM HOSPITAL.—The annual meeting of the friends and supporters of the Friedenheim Hospital (Home of Peace for the Dying) will take place to-day (Saturday) at 3.15 P.M., in the Hampstead Conservatoire, Swiss Cottage, N.W. Princess Louise Augusta of Schleswig-Holstein will preside and will be supported, among others, by the Duchess of Somerset, Mr. John Langton (chairman), the Rev. Prebendary Webb-Peploe, Mr. A. Pearce Gould, Dr. P. J. F. Lush, Dr. A. T. Schofield, and the Rev. H. Summerhayes.

WORTHING HOSPITAL.—A bazaar has just been held at Worthing in connexion with the local hospital extension scheme. Constant enlargement has been necessary to cope with the work which has fallen to its lot. About 200 in-patients and 2500 out-patients, in addition to many minor cases, are received annually. The work of raising the sum required—from £1600 to £2000—has been a special effort of the mayor, Alderman F. C. Linfield. On one day the bazaar was opened by His Highness the Jam Saheb of Navanagar, who gave the mayor a cheque for 20 guineas.

LITERARY INTELLIGENCE.—His Majesty the King, who has always shown a keen interest in the housing conditions of the people and who in 1884 and 1885 as Prince of Wales sat on a Royal Commission to inquire into the housing conditions of the working classes, under the presidency of Sir Charles Dilke, has accepted a copy of Mr. J. S. Nettlefold's book on "Practical Housing," published by the Garden City Press at Letchworth. The book explains the methods of site planning co-partnership tenants societies and a second edition of it is being prepared.

NEW WATER-SUPPLIES.—The new water-supply for Totnes (Devon) was formally inaugurated on May 28th in the presence of a large gathering. The new supply has been granted to the town by Mr. S. Cary for 99 years, at a nominal rent, and the local authorities are entitled to take from May to November 20,000 gallons daily, which will gravitate to the highest point in the town and can be stored in any of the reservoirs.—A Local Government Board inquiry was held at Stoke St. Gregory, near Taunton, on May 20th, into the application of the Taunton rural district council for permission to borrow £8000 for the purpose of securing a water-supply for Stoke St. Gregory, Hatch Beauchamp, and North Curry.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—At a meeting of the council of this society held in London on June 3rd Mr. J. Rymer Young of Warrington was re-elected president, it being the unanimous wish of the members of the council that Mr. Young should retain his position in view of the society's attitude regarding the proposals of the Government to amend the law relating to the sale of poisons now before Parliament. Mr. J. F. Harrington was re-elected vice-president, and Mr. Walter Hills treasurer. The bronze medals for the elementary course in botany, practical chemistry, and materia medica have been awarded to Miss Grace M. Neve.—The distribution of prizes at the School of Pharmacy will take place on Wednesday afternoon, June 24th, at 3 o'clock, at 17, Bloomsbury-square, London, W.C.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Whitsuntide Holidays.

THE House of Commons has taken a very short Whitsuntide holiday this year. The adjournment took place on Thursday, June 4th, and the House reassembled on Wednesday, June 10th. Only three Parliamentary days were included in the holiday. As the House had a long holiday at Easter in consequence of the rearrangement of Ministerial offices and as much of the Government business is by no means well advanced it was felt by the PRIME MINISTER and his colleagues that only a short space of time could be devoted to the Whitsun recess this year by the Commons. The House of Lords, however, has taken a fortnight's holiday. It is understood that the Government is aiming at concluding the summer session of Parliament about July 20th and at calling Parliament together for an autumn session in October.

The Progress of Legislation.

It is the fate of most Bills introduced by private Members to remain on the notice paper awaiting second reading until the end of the session and then automatically to be extinguished. The House of Commons has not the time to examine and to deal with all the 250 Bills introduced in the course of a session and very few are permitted to pass through their various stages without discussion. There is one Bill of interest to the medical profession—the Prohibition of Medical Practice by Companies Bill—which has had the misfortune to remain unconsidered up to the present, although it was introduced in the early part of the session. It has the approval of the General Medical Council. It is in the charge of Sir JOHN TUKE whose position as Member for the Universities of Edinburgh and St. Andrews gives him considerable weight in matters affecting the learned professions. It is supported by members on both sides of the House. It was fully considered by a committee of the House of Lords last year and it passed through all its stages in that chamber. Yet when an attempt has been made to get a second reading for it at the time of unopposed business objection has been invariably taken to it. Its progress has thus been effectually blocked. Amongst other Bills which are still awaiting second reading are: the Coroners' Inquests (Railway Fatalities) Bill, the Coroners (Ireland) Bill, Lord ROBERT CECIL'S Infant Life Protection Bill, Mr. HAY'S Nurses Registration Bill, Mr. MUNRO FERGUSON'S Nurses Registration Bill, the Parochial Medical Officers (Scotland) Bill, the Public Health Officers Bill, and the Purity of Milk Supplies (Scotland) Bill. Mr. HIGHAM'S Coroners' Inquests Bill has passed through a standing committee. Bills introduced by members of the Government have special facilities for advancement. The Children Bill, which deals amongst other matters with infant life protection and juvenile smoking, has made good progress in standing committee under the care of Mr. HERBERT SAMUEL, the Under Secretary for the Home Department. Mr. BURNS'S Housing, Town Planning, &c., Bill has also been sent to a standing committee.

Tuberculosis Prevention (Ireland) Bill.

Mr. BIRRELL has at length introduced his Tuberculosis Prevention (Ireland) Bill into the House of Commons. It is designed "to prevent the spread and provide for the treatment of tuberculosis and for other purposes connected therewith." Mr. BIRRELL has the special support of Mr. CHERRY, the Attorney-General for Ireland, in bringing forward the Bill, which has, as a matter of form, been read a first time.

Experiments on Living Animals.

On the motion of Mr. HERBERT SAMUEL a return has been ordered by the House of Commons to show the number of experiments on living animals carried out under licences in the year 1907.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 3RD.

Medical Referees.

Sir CHARLES DILKE asked the Secretary of State for the Home Department whether his attention had been called to the apparent inconsistency of surgeons appointed by the Home Office to official positions as, for example, those of medical referee or certifying surgeon, holding at the same time positions in which they had to represent an interest sometimes at variance with their official functions; whether in consequence the same surgeon often had to act judicially and also to be called as a witness by a litigant in the same case; whether the certifying surgeons in the Potteries districts held appointments from the Potteries Insurance Company; whether such certifying surgeons investigated on behalf of the insurance company cases of suspected lead poisoning first diagnosed by the medical attendant of the workmen and attended the directors' meeting to be consulted by the insurance company upon cases in their respective districts; whether a workman could only receive compensation for disablement from a scheduled disease if he first obtained a certificate, while in the event of appeal against refusal of a certificate the certifying surgeon was often retained by the insurance company or employers to represent them in appeal; whether he would consider the possibility of providing in future appointments for a greater separation of duties; and in the case of lead poisoning whether he would allow the matter to be considered by the departmental committee.—Mr. GLADSTONE furnished the following written reply: In the case of medical referees under the Workmen's Compensation Act it is, with few exceptions, made a condition of appointment that the referee shall not hold any position

Notes, Short Comments, and Answers to Correspondents.

TATTOOING.

AN interesting article on tattooing in the U S. Navy appears in the April issue of the *United States Naval Medical Bulletin* by Surgeon Ammen Farenholt, U.S. Navy, attached to U.S.S. *Independence* at the Mare Island Navy Yard, California. He says: "I have recently examined the enlistment records of 3572 men, being the enlistments on this vessel for a period of eight and a half years, and have obtained the following data for that portion of our enlisted force percentage of men found tattooed on examination for second and subsequent enlistments, 53·61; percentage of men found to be tattooed on examination for first enlistment, 23·61. While the former figures give a fair estimate of tattooing among the 'old timers' it is a trifle under the correct estimate for the service as a whole, and I think it would be nearer the truth to say that about 60 per cent. of persons who have served over ten years are thus marked. On the other hand, it is not fair to assume that 23 per cent. of all male civilians are tattooed because that was found to be the percentage among those who presented themselves for first enlistment, as a considerable proportion of applicants are seafaring men, and as it is probable that some men conceal previous service." The designs were found to have been placed in the following locations according to numerical preponderance: (1) forearms, (2) arms, (3) chest, (4) shoulders, (5) hands, (6) wrists, (7) legs, (8) feet, (9) back, and (10) face. The conventional designs in order of frequency were the following (1) letters, (2) coats-of-arms, (3) flags, (4) anchors, (5) eagles and birds, (6) stars, (7) female figures, (8) ships, (9) clasped hands, (10) daggers, (11) crosses, (12) bracelets, and (13) hearts. Further particulars of Surgeon Farenholt's paper may be seen in the *Naval and Military Record* of May 21st, which has made a long quotation from the article. Those who are interested in tattooing will find some further information easily accessible in an annotation which appeared in THE LANCET of March 9th, 1872, p. 341, which gave a summary of various methods of tattooing, and in the "Twentieth Century Practice of Medicine," Vol. XII., p. 382, which contains an interesting article by Professor Cesare Lombroso. Surgeon Farenholt states that the custom probably originated among the natives of the South Sea Islands, but Professor Lombroso refers to Herodotus having observed the custom in his time. The orthodox origin is that some Scythian ladies caused some Thracian female captives to be so marked for purposes of derision, but that it afterwards became a fashion.

A few particulars of tattooing in the South Sea Islands will be found in the "Narrative of Missionary Enterprises in the South Sea Islands," by John Williams, the "Missionary of Polynesia," who was so tragically murdered in 1839. He there says: "Some were tattooed from head to foot. Some were painted most fantastically with pipe-clay and yellow and red ochre. Others were smeared with charcoal. The King Makea (of Rarotonga) was most beautifully tattooed and slightly coloured with a preparation of turmeric and ginger which gave it a light orange tinge." Speaking of another island he says: "Few of the women were tattooed, but many of them were spotted. This is what they call *sengisengi*, and is effected by raising small blisters with a wick of native cloth, which burns, but does not blaze. When they are healed they leave the spot a shade lighter than the original skin. Thus indelible devices are imprinted. They adopt this method at Samoa, and tattooing at other islands to perpetuate the memory of some important event or beloved and departed relative."

Biblical students think that the following reference in Leviticus xix. 28 has reference to what is now known as tattooing: "Ye shall not make any cuttings in your flesh for the dead, nor print any marks upon you: I am the Lord." But there is no doubt that it has been very frequent among the Polynesians and the Maori chiefs of New Zealand and the Japanese, Burmese, and Siamese. With the New Zealanders the more the marks the greater the rank was the rule. The traffic in the tattooed heads of New Zealand chiefs caused such a scandal in 1830 that it was stopped by the British Governor, Darling. Tattooing was the cause of some losing their heads it was said. The chief reason of tattooing seems to have been to insure some sign of identity in battle.

Tattooing has also been employed for motives of religion, love and vendetta, distinction, and pure love of ornament. Criminals seem to have employed it for mixed motives of recognition or fancy. It has also been employed to restore natural colours in parts which are pigmented. Those who desire to have tattoo marks removed may find profit by referring to a paragraph which appeared in THE LANCET of Nov. 30th, 1907, p. 1555. Soldiers and sailors have always been partial to tattooing and we understand that the Bethnal Green police are now trying to establish the identity of a man, apparently an old soldier, who said that he had served in Burma, who died in the Vicar of Wakefield public-house, Bethnal Green, while he was smoking a cigarette. At Bethnal Green mortuary the man's body was found to be tattooed most elaborately all over, the designs including dancing girls, swords, crossed hands, and snakes. He was about 35 years old and a letter bearing the name of Albert Francis Candell was found in the clothing. Those of our soldiers and sailors who favour tattooing may not find it an unmixed distinction. There is danger in interfering with the natural functions of the skin and also the danger of conveying specific disease and the operation should not be lightly or carelessly undertaken, and in many cases it would be better not to undergo it at all.

"BLOWN" MEAT.

AT Brighton on June 2nd Benjamin Firth Kettle, cattle-dealer, Hassocks, and Louis Neary, butcher, Hurst, were each fined £2 10*s.* and costs, the former for depositing in Brighton for the purpose of sale, and intended for the food of man, a quantity of unsound meat, and the latter for being in possession of the meat. The meat consisted of two fore-quarters, a hind-quarter, and the head and pluck of an old ewe, and the evidence of Dr. Duncan Forbes, medical officer of health, showed that the lung was extensively affected by parasitic disease, the carcass was emaciated, and the meat wet and flabby. It was stated by the sanitary inspector that air had been blown into the cellular tissues to make the carcass appear plump and to hide the emaciation, and that such a practice was common in the south in the case of lamb and veal, but not in the case of mutton. The prosecution contended that it was Kettle's custom not to deal with butchers but to visit public-houses and restaurants and to offer meat for sale. This was denied. However, a quarter of this particular ewe was discovered at a public-house and seized. The fine of £2 10*s.* seems to be hardly sufficient to act as a deterrent to what no doubt has been a very lucrative trade in unsound meat.

"AS OTHERS SEE US."

To the Editor of THE LANCET.

SIR,—The following story overheard in a railway train recently is instructive as well as amusing. My fellow-passengers were four middle-class respectable women, and were all apparently strangers to each other and to me. One was suffering from a severe cough and the conversation turned to medicine and doctors, when one of the others declared she had had "asthma" for years and had gone to several doctors who "could do nothing" for her, and now she triumphantly asserted a chemist had given her a "chest protector" which she exhibited (!) and it had cured her.

The second woman chimed in and related how she had "saved her child's life" after the doctor had given her up by giving "Turkey rhubarb, manna, and rose leaves," a prescription she had seen in a newspaper. The doctor could not understand how the child recovered and she did not tell him, as once before he had laughed when she informed him she had given saffron tea to the children when they had measles, and "every mother knew it was the best thing"! The third story, however, was the most marvellous and was told in dramatic style. Her daughter, aged 12, had been attended by a doctor for several weeks for St. Vitus's dance, but with no improvement, and he advised a visit to the seaside. They went to Southport and the next day a woman overtook them and remarked: "I see your little girl has St. Vitus's dance; if you want to cure her send 5*s.* to Mr. X. at Lancaster and he will help you." She did, and received four powders with directions to give one a week at exactly the same hour and day. The first did no good; soon after the second the child could "keep her face straight"; after the third she "stopped jerking her arms," and ten minutes after the fourth powder "power came back to her legs and she passed a long worm"! There had been no relapse and it had happened some months ago. Cases have been recorded in THE LANCET (Pereira: THE LANCET, Sept. 19th, 1903, p. 824; Hodge: THE LANCET, Oct. 31st, 1903, p. 1232) of worms causing chorea and this was undoubtedly a case. The moral is obvious.

I am, Sir, yours faithfully,

Wakefield.

A. F. THEOBALDS.

AN INCREASED SENTENCE ON A "SPECIALIST DOCTOR."

BERTRAM MORTIMORE, described as "an American specialist doctor," has furnished the first example of the increase of a sentence by the newly constituted Court of Criminal Appeal. Mortimore was sentenced to 15 months' hard labour for an offence not connected with his practice as a "specialist doctor," that of stealing a Gladstone bag from Victoria Station, but this sentence was afterwards reduced to the same period of incarceration in the second division. He appealed, and after hearing counsel on his behalf the Court of Criminal Appeal declined to grant him leave to call certain further evidence which he said he wished to lay before them, and also refused to say that the jury had been misdirected by the judge when his case was first tried. In addition to this, after mention had been made of Mortimore's antecedents, with which one of the judges composing the court happened to be acquainted, the sentence was restored to one of hard labour. The power to increase sentences upon appeal has been believed by lawyers to exist in those cases in which prisoners appeal to quarter sessions, but was never exercised so far as we are aware.

INDECENT ADVERTISEMENTS.

THE Joint Committee which is considering the question of lotteries and indecent advertisements and the adequacy or inadequacy of the present law in dealing with these matters held a sitting on June 1st, at which Mr. W. Vesey Harrel, M.V.O., Assistant Commissioner of the Dublin Metropolitan Police, gave some interesting evidence. He pointed out that in Ireland the police had the same problem before them as the English authorities have and gave it as his opinion that extended powers should be given to them for the searching of shops for the discovery of indecent wares. In one part of his evidence he uttered opinions which we have repeatedly expressed ourselves with

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Caird, Francis Mitchell, M.B., C.M. Edin., F.R.C.S. Edin., has been appointed Regius Professor of Clinical Surgery in the University of Edinburgh.

Dennis, A., L.D.S., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon at the Royal Dental Hospital of London.

Fletcher, E. E., L.D.S., has been appointed to the Appliance Department of the Royal Dental Hospital of London.

Gemmell, Samson, M.D., C.M. Glasg., F.F.P.S. Glasg., has been appointed Professor of the Practice of Medicine in the University of Glasgow.

Harwood, L. A., L.D.S., has been appointed House Surgeon at the Royal Dental Hospital of London.

Mackenzie, Theodore Charles, M.B., F.R.C.P. Edin., has been appointed Medical Superintendent of the Inverness District Asylum.

Murphy, Edward Ernest Albert, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Assistant Medical Officer at the Devon County Asylum, Exeter.

Ovey, W. C., L.D.S., has been appointed House Surgeon at the Royal Dental Hospital of London.

Skerrett, Frank B., M.B. Lond., D.P.H., has been appointed School Medical Inspector for the County Borough of West Ham.

Smyth, F. R., L.D.S., has been appointed House Surgeon at the Royal Dental Hospital of London.

Von Bergen, C. W., M.B., B.S. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Leatherhead District of the county of Surrey.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Argentina, British Hospital, Buenos Aires.—Assistant Resident Medical Officer, unmarried. Salary £200, increasing to £300 per annum, with board and lodging.

Aylesbury, Bucks County Lunatic Asylum, Stone.—Senior Assistant Medical Officer. Salary £175 per annum, with board and apartments.

Aylesbury, Royal Buckinghamshire Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Bangor, Carnarvonshire and Anglesey Infirmary.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

Bath, Royal Mineral Water Hospital.—Resident Medical Officer. Salary £100 per annum, with lodging, board, and laundry.

Birmingham General Dispensary.—Resident Locum. Salary £4 4s. per week, with apartments.

Bridgwater Hospital.—House Surgeon, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

Brighton, Royal Alexandra Hospital for Sick Children, Dyke-road.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Brighton, Sussex County Hospital.—Third House Surgeon, unmarried. Salary £50 per annum, with board and residence.

Brighton Throat and Ear Hospital, Church-street, Queen's-road.—*Non-resident House Surgeon for six months, renewable.* Salary at rate of £100 per annum.

Bristol Royal Hospital for Sick Children and Women.—Assistant House Surgeon for six months. Salary £50 per annum, with board, rooms, and attendance.

Bury St. Edmunds, West Sussex General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

Carmarthenshire Infirmary.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance &c.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, and washing.

Derby, County Borough of.—Medical Officer of Health. Salary £600 per annum.

Derby, Derbyshire Royal Infirmary.—Assistant House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and washing.

Dumfries and Galloway Royal Infirmary.—Assistant House Surgeon. Salary £55 per annum, with board and lodging.

Enfield and Edmonton Isolation Hospital, World's End, Winchmore Hill.—Resident Assistant Medical Officer. Salary £150 per annum, with rooms, rations, and washing.

Evelina Hospital for Sick Children, Southwark Bridge-road, London, S.E.—Eight Clinical Assistants in the Out-patient Department. Also Honorary Anæsthetist.

Farringdon General Dispensary and Lying-in Charity, 17, Bartlett's-buildings, Holborn Circus, E.C.—Resident Medical Officer. Salary £100 per annum, with rooms, attendance, fire, &c.

King Edward VII. Sanatorium, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and attendance.

Kingston-upon-Hull, City and County of.—Assistant Medical Officer of Health, unmarried. Salary £200 per annum, with residence, board, and washing.

Leicester Infirmary.—Assistant House Physician. Salary at rate of £50 per annum, with board, apartments, and washing. Also Second House Surgeon. Salary at rate of £100 per annum, with board, apartments, and washing.

Lichfield, County Asylum, Burntwood.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, attendance, and washing.

Liverpool Eye and Ear Infirmary, Myrtle-street.—Two Honorary Anæsthetists.

Liverpool Infirmary for Children.—House Surgeon. Salary £100 per annum, with board and lodging.

Liverpool, Royal Southern Hospital.—Resident Pathologist and Registrar. Salary £100, with board and residence.

Liverpool University of.—Chair of Therapeutics.

London County Asylum, Claybury, Woodford, Essex.—Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, and washing.

London County Asylum, Horton, Epsom, Surrey.—Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, and washing.

Maidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £175 per annum, with quarters, attendance, washing, &c.

Manchester, Chorlton-upon-Medlock Dispensary.—Resident Medical Officer. Salary £120 per annum.

Manchester Eye and Ear Hospital, 25, St. John-street, Deansgate.—*Medical Officers for the Examination of School Children.* Also Clinical Assistants.

Manchester, St. Mary's Hospitals for Women and Children.—Resident Surgical Officer. Salary £100 per annum, with board and residence.

Metropolitan Hospital, Kingsland-road, N.E.—Assistant Surgeon.

Miller General Hospital, Greenwich-road, S.E.—Physician to In-Patients. *Also Surgeon to In-Patients.* Also Junior House Surgeon for six months. Salary at rate of £80 per annum.

Mountain Ash Urban District Education Committee.—School Medical Officer. Salary £250 per annum.

New Hospital for Women.—Two House Surgeons (females).

Northampton, County Borough of.—Assistant Medical Officer of Health. Salary £200 per annum, rising to £250.

Oldham, County Borough of.—Assistant Schools Medical Officer. Salary £200 per annum, rising to £260.

Poplar and Stepney Sick Asylum, Bromley, E.—Second Assistant Medical Officer. Salary £100 per annum, with rations, apartments, and washing.

Prince of Wales's General Hospital, Tottenham, N.—Junior House Physician. Salary £40 per annum, with residence, board, and laundry.

Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—Two House Surgeons for six months. Salaries at rate of £60 per annum, with board, residence, and laundry.

Rangoon Municipality.—Health Officer. Salary Rs.1000, rising to Rs.1500 per mensem.

Royal General Dispensary, 25 and 26, Bartholomew's-close, E.C.—*Physician. Salary £40 per annum.*

Royal Waterloo Hospital for Children and Women, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

St. George's Union Infirmary, Fulham-road, London, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

Shrewsbury, Salop Infirmary.—House Physician. Salary at rate of £60 per annum, with board and apartments.

South Africa, Provincial Hospital, Port Elizabeth.—Assistant House Surgeon, unmarried. Salary £225, rising to £300 per annum, with board and residence.

Stoke-on-Trent, North Staffordshire Infirmary and Eye Hospital, Hartshill.—Junior House Surgeon. Salary £50 per annum, with board, apartments, and washing.

Syria, Lebanon Hospital for the Insane, Asfuriyeh.—Medical Superintendent. *Salary £300 per annum* and house.

West London Hospital and Post-Graduate College, Hammersmith-road, W.—Clinical Assistants *also Casualty Officers.*

Western Australia, Hospital for the Insane.—Senior Assistant Medical Officer, unmarried. Salary £380, rising to £405 per annum, with board, lodging, washing, fuel, and light. Also Junior Assistant Medical Officer. Salary £285, rising to £315 per annum, with board, lodging, washing, fuel, and light.

Western General Dispensary, Marylebone-road, N.W.—Junior House Surgeon. *Salary at rate of £80 per annum,* with board, residence, and washing.

Weston-super-Mare Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £30 per annum, with apartments, board, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

De Zilwa.—On May 8th, at 10, Rosmead-place, Cinnamon Gardens, Colombo, Ceylon, the wife of Lucian A. E. de Zilwa, M.D., B.Sc. Lond., *of a daughter.*

French.—On the 7th June, at 23, Porchester-gardens, Hyde Park, W., the wife of J. Gay French, M.B., M.S. Lond., F.R.C.S. Eng., of a son.

MARRIAGES.

Bramwell—Cunningham.—On June 3rd, at St. Cuthbert's Parish Church, Edinburgh, Edwin Bramwell, M.B., F.R.C.P. Edin. and Lond., to Elizabeth Cumming, elder daughter of D. J. Cunningham, F.R.S., Dean of the Faculty of Medicine in the University of Edinburgh.

DEATHS.

Bullmore.—On Thursday, June 4th, at Arwenack, Falmouth, W. King Bullmore, M.D., aged 74.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Wednesday.—Clinics:—2.30 p.m., Medical Out-patient (Dr. Whipham); Skin (Dr. Meachen); Eye (Mr. Brooks).

Thursday.—2.30 p.m., Special Demonstration of Gynæcological Operations (Dr. Giles). Clinics:—Medical Out-patient (Dr. Whiting); Surgical (Mr. Carson); X Rays. 3 p.m., Medical In-patient (Dr. Chappel). 4.30 p.m., Demonstration of Selected Medical Cases (Dr. Whiting).

Friday.—10 a.m., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 p.m., Surgical Operations (Mr. Edmunds). Clinics:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 p.m., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

Monday.—2.15 p.m., Sir Dyce Duckworth: Medicine. 2.30 p.m., Operations. 3.15 p.m., Mr. W. Turner: Surgery. 4 p.m., Mr. L. A. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Ear and Throat.

Tuesday.—2.15 p.m., Dr. R. T. Hewlett: Medicine. 2.30 p.m., Operations. 3.15 p.m., Mr. Carless: Surgery. 4 p.m., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Skin.

Wednesday.—2.15 p.m., Dr. F. Taylor: Medicine. 2.30 p.m., Operations. 3.30 p.m., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 a.m., Surgical and Medical, 11 a.m., Eye.

Thursday.—2.15 p.m., Dr. G. Rankin: Medicine. 2.30 p.m., Operations. 3.15 p.m., Sir W. Bennett: Surgery. 4 p.m., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 a.m., Surgical and Medical 12 noon, Ear and Throat.

Friday.—2.15 p.m., Dr. R. Bradford: Medicine. 2.30 p.m., Operations. 3.15 p.m., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Skin. Special Lecture:—*Dr. R. Bradford: Peripheral Neuritis.*

Saturday.—2.30 p.m., Operations. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 11 a.m., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

Tuesday.—3.30 p.m., Lecture:—Dr. Collier: Amyotonia Congenita.

Friday.—3.30 p.m., Lecture:—Dr. Collier: Caisson Disease.

ROYAL INSTITUTE OF PUBLIC HEALTH, Theatre of the Institute, 37, Russell-square, W.C.

Wednesday.—5 p.m., Harben Lecture:—Prof. G. H. F. Nuttall: Spriochætosis in Man and Animals.

MEDICAL OFFICERS OF SCHOOLS ASSOCIATION, 11, Chandos-street, Cavendish-square, W.

Wednesday.—3.30 p.m., Discussion on the Recent Memorandum passed by the Board of Education to Local Education Authorities *re* the Medical Inspection of Elementary Schools (opened by Mr. J. Hayward).

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (15th).—London (2 p.m.), St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), St. George's (2 p.m.), St. Mary's (2.30 p.m.), Middlesex (1.30 p.m.), Westminster (2 p.m.), Chelsea (2 p.m.), Samaritan (Gynæcological, by Physicians, 2 p.m.), Soho-square (2 p.m.), City Orthopædic (4 p.m.), Gt. Northern Central (2.30 p.m.), West London (2.30 p.m.), London Throat (9.30 a.m.), Royal Free (2 p.m.), Guy's (1.30 p.m.), Children, Gt. Ormond-street (9 a.m.), St. Mark's (2.30 p.m.), West London (2.30 p.m.).

TUESDAY (16th).—London (2 p.m.), St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), Guy's (1.30 p.m.), Middlesex (1.30 p.m.), Westminster (2 p.m.), West London (2.30 p.m.), University College (2 p.m.), St. George's (1 p.m.), St. Mary's (1 p.m.), St. Mark's (2.30 p.m.), Cancer (2 p.m.), Metropolitan (2.30 p.m.), London Throat (9.30 a.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Throat, Golden-square (9.30 a.m.), Soho-square (2 p.m.), Chelsea (2 p.m.), Central London Throat and Ear (2 p.m.), Children, Gt. Ormond-street (9 a.m. and 2 p.m., Ophthalmic, 2 p.m.), Tottenham (2.30 p.m.).

WEDNESDAY (17th).—St. Bartholomew's (1.30 p.m.), University College (2 p.m.), Royal Free (2 p.m.), Middlesex (1.30 p.m.), Charing Cross (3 p.m.), St. Thomas's (2 p.m.), London (2 p.m.), King's College (2 p.m.), St. George's (Ophthalmic, 1 p.m.), St. Mary's (2 p.m.), National Orthopædic (10 a.m.), St. Peter's (2 p.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Gt. Northern Central (2.30 p.m.), Westminster (2 p.m.), Metropolitan (2.30 p.m.), London Throat (9.30 a.m.), Cancer (2 p.m.), Throat, Golden-square (9.30 a.m.), Guy's (1.30 p.m.), Royal Ear (2 p.m.), Royal Orthopædic (3 p.m.), Children, Gt. Ormond-street (9 a.m. and 9.30 a.m., Dental, 2 p.m.), Tottenham (Ophthalmic, 2.30 p.m.), West London (2.30 p.m.).

THURSDAY (18th).—St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), University College (2 p.m.), Charing Cross (3 p.m.), St. George's (1 p.m.), London (2 p.m.), King's College (2 p.m.), Middlesex (1.30 p.m.), St. Mary's (2.30 p.m.), Soho-square (2 p.m.), North-West London (2 p.m.), Gt. Northern Central (Gynæcological, 2.30 p.m.), Metropolitan (2.30 p.m.), London Throat (9.30 a.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Throat, Golden square (9.30 a.m.), Guy's (1.30 p.m.), Royal Orthopædic (9 a.m.), Royal Ear (2 p.m.), Children, Gt. Ormond-street (9 a.m. and 2 p.m.), Tottenham (Gynæcological, 2.30 p.m.), West London (2.30 p.m.).

FRIDAY (19th).—London (2 p.m.), St. Bartholomew's (1.30 p.m.), St. Thomas's (3.30 p.m.), Guy's (1.30 p.m.), Middlesex (1.30 p.m.), Charing Cross (3 p.m.), St. George's (1 p.m.), King's College (2 p.m.), St. Mary's (2 p.m.), Ophthalmic (10 a.m.), Cancer (2 p.m.), Chelsea (2 p.m.), Gt. Northern Central (2.30 p.m.), West London (2.30 p.m.), London Throat (9.30 a.m.), Samaritan (9.30 a.m. and 2.30 p.m.), Throat, Golden-square (9.30 a.m.), City Orthopædic (2.30 p.m.), Soho-square (2 p.m.), Central London Throat and Ear (2 p.m.), Children, Gt. Ormond-street (9 a.m., Aural, 2 p.m.), Tottenham (2.30 p.m.), St. Peter's (2 p.m.).

SATURDAY (20th).—Royal Free (9 a.m.), London (2 p.m.), Middlesex (1.30 p.m.), St. Thomas's (2 p.m.), University College (9.15 a.m.), Charing Cross (2 p.m.), St. George's (1 p.m.), St. Mary's (10 a.m.), Throat, Golden-square (9.30 a.m.), Guy's (1.30 p.m.), Children, Gt. Ormond-street (9 a.m. and 9.30 a.m.), West London (2.30 p.m.).

At the Royal Eye Hospital (2 p.m.), the Royal London Ophthalmic (10 a.m.), the Royal Westminster Ophthalmic (1.30 p.m.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editor," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

Will Subscribers please note that only those subscriptions which are sent direct to the Proprietors of The Lancet at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach The Lancet Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to The Lancet Offices.

Subscribers, by sending their subscriptions direct to The Lancet Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The Colonial and Foreign Edition (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from The Lancet Offices or from Agents, are:—

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. Charles Good, The Lancet Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

Subscribers abroad are particularly requested to note the rates of subscriptions given above. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of The Lancet necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of The Lancet have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

During the week marked copies of the following newspapers have been received:—*Liverpool Courier, Northern Whig, New Zealand Herald, Glasgow Times, Glasgow Evening Times, Birmingham Despatch, Morning Post, Times of India, Aberdeen Free Press, Wimborne Herald, Newcastle Daily Chronicle, Yorkshire Daily Post, Hampshire Advertiser, Aberdeen Gazette, Weekly Scotsman, Ipswich Star, North Star, Newcastle Weekly Journal, The Schoolmaster, &c.*

regard to the necessity for a wider definition of the words "indecent or obscene" and increased penalties for those guilty of obscene publication. Mr. Harrel thought that the printers and publishers of "literature" referring to medicines and appliances for the treatment of sexual disorders ought to be made liable to prosecution. This is a point which has been abundantly clear to us for a long time. The vendors of abortifacients (which may or may not cause abortion), of sexual invigorators which certainly do not invigorate, and of rubber goods are very generally the same persons. They carry on, and make money out of, an indecent trade. Claims made on behalf of their wares are false and they should be placed in the more immediate surveillance of the police.

HOSPITAL PEWTER.

LOVERS of the antique who gave an hour to the inspection of the pewter exhibited in the hall of Clifford's Inn last week have doubtless been comparing notes on the collections in their own hospitals—they happen to belong to one of the older institutions. St. Bartholomew's is justly proud of its possessions in this ancient metal, but perhaps it is not so well known that the little infirmary of the Foundling Hospital also rejoices in some very fine specimens. Among them are a handsome bowl and ewer, several "bleeding basins" with finely worked handles—reminiscent of the days of cupping and other forms of blood-letting—and a mug-shaped article with two openings at the top, to which have been assigned the alternative uses of a lamp or an inhaler. The question of how far back inhaling may have been practised is one for medical archæologists. One of the bleeding basins, which has a rather more elaborate handle than the others, is measured to hold 16 ounces. There is no clue forthcoming at present as to the date of the articles. They were found some time ago, covered with the dust of ages, in a cupboard in the old disused infirmary, and handed over to the care of the superintendent of the new one. The whole set is now kept as a prominent ornament in one of the wards, and may be seen by any visitors sufficiently interested in this great institution to penetrate as far as the infirmary.

◆

Ethics.—1. It is not customary for a medical officer of health to inspect a patient who is suffering from infectious disease and whose condition has been notified by the practitioner in attendance in the usual way. The exceptions to this rule are the very rare cases where the health officer has strong reason to doubt the good faith of the certificate or where the certificate is not explicit—e.g., as in a notification of "continued fever"—or where the disease reported is exceptional and of grave danger to the community, such as cholera or typhus fever. 2. The medical officer of health has no legal right of entry to a sickroom, save when he can show a "nuisance" to exist therein and on that ground obtains a magistrate's order to enter. He has no right to inspect patients without their consent or that of their friends, and it is highly desirable that the coöperation of the medical practitioner in attendance should be obtained before a visit for such a purpose is made, and that the inspection of the patient should have the nature of a consultation between the practitioner and the health officer, the usual courtesies of a medical consultation being strictly observed. It would be unethical for a health officer to inspect a patient without at any rate acquainting the practitioner in attendance of his intention to do so. Our correspondent will find the whole matter discussed fully in a pamphlet published by THE LANCET containing reprints of a series of special articles entitled "Difficulties under the Infectious Disease (Notification) Act."

Westminster.—We presume that our correspondent wants to know what is the custom pursued in the best professional circles, for, of course, from an ethical point of view he can adopt any style of visiting card that he likes. In this country it is quite unusual for a medical man to be described on his visiting card more fully than he would be announced on entering a room. Our correspondent being engaged in ophthalmology should describe himself simply as Mr. ——; he should not put his honour degrees or his specialty as an ophthalmic surgeon on his card. In other countries, notably in America, the reverse obtains, and certainly makes for convenience.

J. W. R.—Will our correspondent kindly send us one of the certificate forms in question?

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 11th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 5	30 02	N.	0·23	118	68	56	63	58	Cloudy
" 6	29·93	N.W.	...	97	58	50	48	54	Cloudy
" 7	30·21	N.E.	...	103	62	45	45	51	Cloudy
" 8	30 14	N.W.	...	110	68	51	52	59	Cloudy
" 9	30·22	N.W.	0·02	107	70	49	53	55	Raining
" 10	30 30	N.W.	0·01	124	75	55	61	66	Cloudy
" 11	30 23	S.W.	...	126	68	57	68	63	Cloudy

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Stephen Paget, H. F. Waterhouse): at 5.30 P.M.

Mr. Walter G. Spencer: Reduction of an Old Sub-coracoid Dislocation of the Humerus by Excavating the Glenoid Cavity through a Posterior Intermuscular Incision.

Mr. Alban Doran: Cystic Tumour of the Suprarenal Body successfully Removed by Operation

Mr. Rushton Parker: (1) Cases of Non-union treated by Implantation of Bone Fragments; (2) Case of very severe Compound Fracture of Arm.

(Illustrated by photographs and lantern slides).

THURSDAY.

NEUROLOGICAL SECTION (Hon Secretaries—Leonard G. Guthrie, E. Farquhar Buzzard): at 4.30 P.M.

Clinical Meeting (at the Hospital for Epilepsy and Paralysis, 4, Maida-vale).

DERMATOLOGICAL SECTION (Hon. Secretaries—A. Whitfield, E. G. Graham Little): at 5 P.M.

Clinical Cases:

Dr. Graham Little: (1) Private Case for Diagnosis; (2) Private Case of Urticaria Pigmentosa in an Adult (with sections); (3) Two Cases of Pseudo-pelade (Brocq); (4) Sections of Skin from the Case for Diagnosis and the "Varus Nodulosus" shown at the last meeting.

(And other Cases not yet notified).

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

SOCIETY FOR THE STUDY OF INEBRIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—3.30 P.M., Council Meeting. 4 P.M., Discussion on *Alcoholism and Cruelty to Children* (opened by Mr. R. J. Parr).

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover-square, W.

FRIDAY.—8.30 P.M., Annual General Meeting. Dr. C. F. Harford: Tick Fever of Africa, with Special Reference to its Clinical Manifestations and its Relation to the Relapsing Fever of India and other parts of the World.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, *Pall Mall East.*

THURSDAY.—5 P.M., Croonian Lecture:—Dr. A. E. Garrod: *Inborn* Errors of Metabolism.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. H. Sequeira: Clinique (Skin). 5.15 P.M., Lecture:—Prof. T. Hewlett: The Diagnosis of Syphilis, &c., by the Antigen Method.

TUESDAY.—4 P.M., Dr. E. Cautley: Clinique (Medical). 5.15 P.M., Lecture:—Mr. H. Evans: *Injuries to the Head* of the New Born (with lantern slides).

WEDNESDAY.—4 P.M., Mr. R. Johnson: Clinique (Surgical) 5.15 P.M., Lecture:—Mr. C. R. B. Keetley: Affections of the Toes, Feet, and Ankles.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. W. Langdon Brown: Diseases associated with Cyanosis.

FRIDAY.—4 P.M., Mr. A. Lawson: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Bidwell: Plaster of Paris Splints.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. 2.15 P.M., Dr. Davis: Diseases of Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Armour: Lymphatic Gland Enlargements

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Armour: Thyroid Enlargements.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X *Rays.* 2.15 P.M., Dr. Davis: Diseases of Throat, Nose, and *Ear.* 2.30 P.M., *Operations.* Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. R. H. Cole: Medico-legal Relations of Insanity.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Medical Out-patient (Dr. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. Whiting).

TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Clinics:—Surgical (Mr. Edmunds); Gynæcological (Dr. Giles). 4.30 P.M., Demonstration of Cases at the Northwood Sanatorium (Dr. Squire).

Remarks
ON
SOME POINTS IN THE HISTORY OF ANTISEPTIC SURGERY.

BY LORD LISTER, F.R.S.

THE following unfinished letter to Sir Hector Cameron was written early in 1906, before the delivery of his lectures on the Evolution of Wound Treatment, but never sent to him. I have been assured that it would have sufficient interest for some readers to warrant its publication.

MY DEAR CAMERON,—It seems superfluous for me to write anything to you with reference to your coming lectures. But perhaps in what I shall say there may be here and there points which may interest you.

In treating surgical cases antiseptically I always endeavoured to avoid the direct action of the antiseptic substance upon the tissues, so far as was consistent in the existing state of knowledge with attaining the essential object of preventing the development of injurious microbes in the part concerned.

In compound fracture, to which in 1865 I first put in practice the antiseptic principle, I applied undiluted carbolic acid freely to the injured part, in order to destroy the septic microbes already present in it; regarding the caustic action which I knew must occur as a matter of small moment compared with the tremendous evil which it was sought to avoid. But when this had once been done no further direct action of the antiseptic upon the tissues occurred. The carbolic acid formed with the blood a dense chemical compound which, together with some layers of lint steeped in the acid, produced a crust that adhered firmly to the wound and the adjacent part of the skin. This crust was left in place till all danger was over, its surface being painted from time to time with the acid, to guard against the penetration of septic change into its substance. Meanwhile in the undisturbed wound the beautiful result occurred that the material of the crust within it, and the portions of tissue which had been destroyed by the caustic, were replaced by living tissue formed at their expense.

That dead tissue, when protected from external influences, was so disposed of was a most important truth new to pathology; and it afterwards suggested the idea of the catgut ligature.

I do not remember whether you saw the case that led me to apply the antiseptic principle to abscess. The patient was a woman above the middle period of life with lumbar abscess. Taught by the disastrous results that sooner or later followed the evacuation of such abscesses, whether by valvular opening or by cannula and trocar, I left the case undisturbed, till one day, on looking at it, I found that nothing but epidermis seemed to intervene between the pus and the external world, so that if left for another day it would in all probability burst.

I therefore resolved to open it and apply a dressing which should imitate, as much as circumstances permitted, that which we used in compound fractures. The pus which escaped on incision was as thick as any I ever saw. Mixing some of it with undiluted carbolic acid, I applied some layers of lint soaked with the mixture to the wound and surrounding skin and covered them with a piece of thin block tin moulded to proper shape, such as we used for covering the crust in compound fracture. This metal covering, which prevented loss of carbolic acid by evaporation and soaking into surrounding dressings, was fixed by strapping and a folded towel was bandaged over it to absorb discharge.

Next day, on changing the dressing, I was greatly astonished to see nothing escape from the incision except a drop or two of clear serum. What was now to be done? I had no longer any pus to mix with the carbolic acid. But it occurred to me that I might make a satisfactory crust by mixing carbolic acid with glazier's putty. Accordingly I sent to the dispensary for some whiting and boiled linseed oil, and making a solution of one part of carbolic acid in four of the oil, rubbed it up with whiting in a mortar, thus making a carbolic putty. This I spread on a piece of block tin and applied it as I had done the first dressing. There never was any further discharge of pus; the serous oozing diminished rapidly and before long healing was complete.

In that case, as there was no spinal curvature, could not be sure that the abscess was connected with the vertebræ. But similar results afterwards followed the same treatment where discharge of bone showed that such connexion existed and also in suppuration of the hip-joint, whether attended with shortening of the limb or not, scrupulous care being taken to keep the affected part completely at rest. The time required for final closing of the sinus was, however, generally much longer than in the first case.

Precisely the same beautiful result, so entirely novel and so full of deep interest both for pathology and practice, was seen when acute abscesses were treated in the same way, the only difference being that in the acute cases the serous oozing which followed evacuation of the pus came much more rapidly to a conclusion.

In order to insure freedom of escape for the serum, a narrow strip of lint soaked with a solution of carbolic acid in four parts of olive oil was inserted in the incision. But the antiseptic substance was never from first to last applied to the cavity of the abscess, as such treatment could only have been productive of needless irritation.

I continued to use a strip of lint as a drain for about five years with perfectly satisfactory results. But in 1871, having opened a very deeply seated acute abscess in the axilla, I found to my surprise on changing the dressing next day that the withdrawal of the lint was followed by escape of thick pus like the original contents.

It occurred to me that in that deep and narrow incision, the lint, instead of serving as a drain, might have acted like a plug, and so reproduced the conditions present before evacuation. Taking a piece of the indiarubber tubing of a Richardson's spray producer that I had used for local anæsthesia at the operation, I cut holes in it and attached knotted silk threads to one end, so improvising a drainage-tube. This I put to steep for the night in a strong watery solution of carbolic acid and introduced it in place of the lint on changing the dressing next morning. The withdrawal of the lint had been followed by discharge of thick pus as before; but next morning I was rejoiced to find nothing escape unless it were a drop or so of clear serum. This rapidly diminished, and within a week of the opening of the abscess I was able to take leave of my patient, the discharge from the abscess cavity having entirely ceased.

After that case I used drainage-tubes as a rule in the treatment of abscess. But it is well to remember that if such a tube should not be at hand, a narrow strip of lint, sterilised, of course, with some trustworthy antiseptic solution, will in almost every case answer the purpose equally well.

The crude carbolic acid which, under the name of German creasote, was supplied to me by my colleague Dr. Anderson, Professor of Chemistry in the University of Glasgow, was a brown liquid which had been adulterated with water, and this lay on the top as a clear layer destitute of any flavour of carbolic acid. This led me in my first paper on compound fracture to speak of carbolic acid as absolutely insoluble in water. But when it was afterwards produced in a comparatively pure condition in colourless crystals it proved to be capable of being taken up by water, though 20 parts were required for the purpose. The watery solution, however, though weak numerically, showed itself to be exceedingly potent as an antiseptic. Having applied it to a foul sore in the palm of the hand, I found, on changing the dressing next day, that all putrefactive odour had disappeared.

This enabled me to use carbolic acid for washing wounds after operations and so to extend the application of the antiseptic principle to surgery in general. In the state of knowledge at that early period it seemed imperative to apply a powerful germicide to the wound before closing it. To use undiluted carbolic acid for operation wounds, as I had done in compound fracture, was out of the question; and carbolic oil, though I did indeed try it, was ill adapted for the purpose. But the watery solution could be satisfactorily used not only for washing the wound but also for purifying the surrounding skin, the hands of the operator, and the instruments.

The entire absence of carbolic acid in the layer of water on the "German creasote" with which I made my first attempts with compound fractures indicates that there were present in the crude product substances for which the acid had incomparably greater attraction than it had for water. When purified from these substances it is indeed soluble in water, but only in small amount; and being so feebly held by water it is free, when in watery solution, to act upon

Communications, Letters, &c., have been received from—

A.—Ardath Tobacco Co., Lond; Mr. D. E. Anklesaria, Ahmedabad; Messrs. P. W. Ardran and Co., Liverpool; A. G. E.; Messrs. Claudius Ash, Sons, and Co., Lond.; Mr. J. D. E. Anklesaria, Lond.; Messrs. Allen and Hanburys, Lond.;

B.—Mr. F. A. Brockhaus, Lond.; Mr. G. P. Butcher, Plymouth; Messrs. D. Brown and Son, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Board of Education, Lond., Secretary of; Mr. J. S. Beveridge, Milnathort; "Brute"; Bailbrook House, Bath, Medical Superintendent of; Messrs. J. Beal and Son, Brighton; The Bayer Co., Lond.; Mr. St. John Buchan, Bangalore; Messrs. R. C. Batt and Co., Southampton; Dr. W. Cecil Bosanquet, Lond.; Mr. E. Titus Barham, Lond.; Messrs. Blundell and Rigby, Lond.

C.—Mr. V. Zachary Cope, Lond.; Co-partnership Tenants, Ltd., Lond.; Colonial Nursing Association, Lond., Secretary of; Messrs. Carnrick and Co., Lond.; Messrs. A. H. Cox and Co., Brighton; Messrs. G. W. Carnrick and Co., New York; Messrs. Carter, Lond.; C. W.; Dr. H. W. Cattel, Philadelphia; Continental Tyre and Rubber Co. (Great Britain), Lond.; City of York Education Committee, Secretary of; Messrs. Crossley and Co., Lond.; Messrs. Callard and Co., Lond.

D.—Darlington Education Committee, Secretary of; Davis (F. A.), Company, Philadelphia; Dr. E. H. Douty, Paris.

E.—Dr. E. Emrys-Roberts, Liverpool; Mr. M. D. Eder, Lond.

F.—The Fine Art Society, Lond.; Farringdon General Dispensary, Lond., Hon. Secretary of; F. W.; Messrs. J. S. Fry and Sons, Bristol; Friedenheim Hospital, Lond., Secretary of.

G.—Mr. N. E. Glanville, Lond.; Dr. E. A. Gates, Florence; Dr. J. G. Gordon-Munn, Norwich; G. H.; Dr. M. Greenwood, Lond.; Dr. Alfred Greenwood, Blackburn; Garden City Press, Lond., Representative of.

H.—Mr. N. Bishop Harman, Lond.; Messrs. Hill and Co., Lond.; Mr. Maurice C. Hime, Londonderry; Mr. C. A. Hill, Lond.; Dr. E. Harries, Lond.; Humanitarian League, Lond.; Hull Corporation, Clerk to the; Messrs. W. C. Henderson and Son, St. Andrews; Lieutenant N. H. Hume, I.M.S., Secunderabad; Dr. C. O. Hawthorne, Lond.; Huddersfield, Medical Officer of Health of.

I.—Dr. C. E. Iredell, Croydon; Ignotus.

J.—Mr. Lindsay Johnson, Lond.; Mr. John Jones, Lond.; Dr. J. Hervey Jones, Dinas Mawddwy; Mr. G. B. James, Lond.; J. W.

K.—Dr. E. Klein, Chislehurst; Dr. H. Cameron Kidd, Bromsgrove; King Edward VII.'s Hospital and Dispensary for Windsor, Eton, and District, Secretary of; Mr. E. M. Knott, Sutton Coldfield; Mr. E. Knight, Westcliff-on-Sea; K. L. S.; Dr. H. Kerr, Newcastle-on-Tyne; Messrs. Kutnow and Co., Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Mr. C. Lillingston, Meanallen; Mr. W. Lumsden, Waterloo, Blyth; London School of Clinical Medicine, Dean of; Messrs. Lee and Nightingale, Liverpool; Mr. H. H. Lacy, Warwick; Leicester Infirmary, Secretary of; Liverpool Eye and Ear Infirmary, Secretary of.

M.—*Dr. E. D. Macnamara, Lond.*; Dr. H. McCormac, Lond.; Mr. Albert E. Morison, Sunderland; Miol Manufacturing Co., Lond.; *Midland Counties Herald*, Birmingham, Manager of; M. J. H.; Messrs. Maple and Co., Lond.; Manchester *Royal Infirmary*, Secretary of; Dr. C. J. Morton, Lond.

N.—Mr. Cyril A. R. Nitch, Lond.; North Staffordshire Infirmary, Hartshill, Stoke-on-Trent, Secretary of; N. G., Lond.; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

O.—Odol Chemical Works, Lond.; Mr. Joseph Offord, Lond.

P.—Dr. W. T. Prout, Liverpool; Mr. J. Prior Purvis, Lond.; Dr. F. J. Poynton, Lond.; Mr. *W. H. Persse, Lond.*; *Pharma*ceutical Society of Great Britain, Lond.; Messrs. C. Pool and Co., Lond.; Prince of Wales General Hospital, Lond., Secretary of; Messrs. W. Porteous and Co., Glasgow; Pearson's Antiseptic Co., Lond.; Messrs. Peacock and Hadley, Lond; Dr. T. W. S. Paterson, Lond.; Fleet-Surgeon A. M. Page, R.N., Plymouth.

R.—Dr. J. W. Rob, Weybridge; Royal Microscopical Society, Lond.; Royal Southern Hospital, Liverpool, Superintendent of; Dr. A. B. Rafle, South Shields; Messrs. Reynell and Son, Lond.; Royal Mineral Water Hospital, Bath, Registrar of; Royal Mail Steam *Packet Co., Lond.*; Dr. F. W. Forbes Ross, Lond.; Research Defence Society, Lond., Hon. Secretary of.

S.—Dr. W. C. Sullivan, Lond.; Messrs. G. Street and Co., Lond.; Dr. F. W. Stewart, Maidstone; Society for the Destruction of Vermin, Lond., Secretary of; Smith's Advertising Agency, Lond.; Messrs. Southall Bros. and Barclay, Birmingham; Dr. D. Lloyd Smith, Kingswood; Stepney Spare Motor Wheel, Llanelly, Manager of; Scholastic, Clerical, *&c.*, Association, Lond.; Star Engineering Co., Wolverhampton; Messrs. Simpkin, Marshall, Hamilton, Kent, and Co., Lond.; Dr. T. B. Smith, Bellshill; Sanitary Inspectors' Examination Board, Lond., Hon. Secretary of.

T.—Dr. A. F. Theobalds, Wakefield; Mr. John M. Thompson, Chicago; T. F. D.

U.—Mr. J. J. Udale, Lond., *United States Patent Office*; Washington, Commissioner of; Mr. Harold Upcott, Hull.

V.—Dr. I. F. B. de Villiers, Oudtshoorn.

W.—Mr. Lewis Waterman, Bristol; Messrs. W. *Wood and Co.*, New York; Dr. W. Wallace, Lond.; Surgeon Colonel F. H. Welch, Lond.; Mr. F. A. Watkins, Lond.; Dr. W. J. Wilson, Belfast; West Suffolk General Hospital, Bury St. Edmunds, Secretary of; "Westminster"; Dr. W. H. Willcox, Lond.

Y.—Mr. P. *Macleod* Yearsley, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Ashwood House, Kingswinford, Superintendent of; A. F.; Anglo-American Pharmaceutical Co., Croydon, Secretary of; Messrs. Abel Heywood and Son, Manchester; *A. H. M. C.*; *Fleet*-Surgeon T. Austen, R.N., Chatham; Apollinaris Co., Lond.

B.—Dr. W. E. Barton, Lond.; Mr. L. A. Bidmore, Falmouth; Burntwood Asylum, Lichfield, Medical Superintendent of; Messrs. W. H. Bailey and Son, Lond.; Burnley Guardians, Clerk to the; *Beckett Hospital*, Barnsley, Matron of; Bank of Madras, Madras, Manager of; Messrs. J. B. Boyd and Co., Manchester.

C.—Dr. R. A. Chisolm, Lond.; C. E. R. B; Cheltenham Education Committee, Secretary of; Dr. T. Carruthers, Kilbarchan; Mr. A. Connell, Sheffield; Messrs. Cowley and Co., Manchester; *Chester Courant*, Chester, Manager of; Carmarthenshire Infirmary, Carmarthen, Secretary of; C. *J.* M. F.

D.—Dr. J. H. Drysdale, Lond.; Dr. A. E. De Zilwa, Colombo; Dr. W. T. Dougal, Pittenweem; Major C. Donovan, I.M.S., Nungumbakam.

E.—Mr. G. S. Earl, Southampton; Electromobile Co., Lond., Managing Director of; East Suffolk and Ipswich Hospital, Secretary of; Evening News Co., Portsmouth, Manager of; E. H.

F.—Mr. F. T. Fagge, Llanfairfechan; F. E. W.

G.—Mr. E. Gooch, Lond.; G. D. C.

H.—Mr. Hughes, Nantymoel; *Mr.* J. Hartley, Huddersfield; Mr. P. Howe, Ashton-under-Lyne; Messrs. J. Haddon and Co., Lond.

J.—Mr. Y. M *Jones*-Humphreys, Cemmaes; *J. F. R.*; J. H., Lond.; Jenner Institute for Calf Lymph, Lond., Secretary of.

K.—Mr. H. M. Kendall, Dawlish; *Dr. C. J. I. Krumbholz, Rugby.*

L.—Dr. A. Lewthwaite, Winsley; Leeds Maternity Hospital, Hon. Secretary of; "Locum," Swansea.

M.—Mr. G. B. McKean, Ledbury; Manchester Eye and Ear Hospital, Accountant to the; Medicus, Holland Park Avenue; M. J. B.; M. F.; Dr. T. H. Middlebro', Owen Sound; Dr. G. A. Mitchell, Irthlingborough; Messrs J. Menzies and Co., Edinburgh; Messrs. J. Menzies and Co., *Glasgow.*

N.—Newport Union, Monmouthshire, *Clerk to the.*

O.—Mr. A. B. C. Orchard, Darlington.

P.—Mr. *R. G. Pole, Edinburgh.*

R.—Misses Ringwood and *Inge*, Haslemere; R. J. M.

S.—Dr. J. B. Stephenson, *Lond.*; Sheffield Union, Clerk *to the*; *South Wales Argus*, Newport, *Manager of*; Messrs. Steel, Maitland and Steel, Sunderland; Messrs. Spiers and Pond, Lond.; Messrs. Stockwell and Co., Lond.; Southampton Corporation, Treasurer to the; S. D. S.; Mr. B. R. Sawhney, Jammu; Dr. Sinclair, *Dundee*; Dr. S.

T.—Mr. F. H. Tetley, Lond.; T. H.

W.—Mr. A. J. Walton, Lond.; Dr. W. L. Wainwright, Henley-on-Thames; Fleet-Surgeon W. A. Whitelegge, R.N., *Portsmouth*; Messrs. H. Wilson and Son, Lond.; *Messrs.* Wills, Lond.; Worcester Corporation, Accountant to the; "Winton Croft," Binfield; W. A. G.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.

One Year	£1 12 6
Six Months	0 16 3
Three Months	0 8 2

TO THE COLONIES AND ABROAD.

One Year	£1 14 8
Six Months	0 17 4
Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	*Ditto*	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0 4 6
	Every additional Line	0 0 6

Situations wanted: *First 30 words, 2s. 6d.; per additional 8 words, 6d.*
Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to insure *insertion the* same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold *himself* responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements: copies only should be forwarded.

Cheques and Post *Office Orders* (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom *all letters relating* to Advertisements *or* Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 31, Rue Bapst, Asnières, Paris.

again, we find that some diseases are more virulent in children than in adults, and *vice versâ*. Perhaps the most striking fact of all, and the one to which I wish especially to draw your attention, is that in diseases which are common to both children and adults the organs and tissues which are attacked by the virus may differ markedly according to the age of the patient

That such differences in the incidence of disease in children and adults are very common is a point which hardly requires any elaboration. The *exanthemata*, for instance, are very often spoken of as children's ailments, and some explain the fact that they are most frequent in children by saying that practically all individuals are highly susceptible to them, and being widely spread, no individual can live long in the world without being exposed to infection. This may be in part true, but I can hardly accept it as a complete explanation of the facts; I cannot but think that, quite irrespective of opportunities of infection, the susceptibility of the individual varies according to age. Even in the case of children, the exanthemata differ among themselves as to the age when they most frequently occur: for example, measles is not uncommon during the first year of life, and something like 90 per cent. of the cases occur in children under five years of age, while scarlet fever rarely occurs in infants, although patients suffering from it may be present in the house or even in the same room, and the favourite age for scarlet fever is from three to ten years. Then, again, chicken-pox occurs at a somewhat later period than scarlet fever; it is not so universally distributed, and it very rarely affects adults.

To take an organism whose life-history is known, we have a very good example of varying susceptibility at different ages in the case of the *pneumococcus*. This organism attacks the body more readily in childhood than in adult life, or as I would prefer to put it, the resisting power of the human body to the pneumococcus is apparently *lower in children* than in adults; thus it *seems to* be the fact that pneumococcal pneumonia is *more common* in children under five years of age than during any other quinquennial period. One of the most interesting points from a surgical point of view is the relation of the pneumococcus to *pleurisy and empyema*. The organisms which are most commonly at work in setting up these conditions are the pneumococcus, the streptococcus pyogenes, and the tubercle bacillus; *other organisms*, such as bacillus coli, staphylococcus, &c., are quite rare. Now the relative frequency *of these organisms* in cases of empyema differs very markedly in children and adults. Thus in children over 60 per cent. of the cases of empyema are due to the pneumococcus, about 15 per cent. to the streptococcus, and about 7 per cent. to the tubercle bacillus. In adults, on the other hand, the *proportions are*: pneumococcus, 25 per cent.; streptococcus, 41 per cent.; and tubercle bacillus, 18 per cent. Thus the pneumococcus is the most common cause of empyema in children and the streptococcus in adults. In children pneumonia is present in cases of pleurisy in from 25 to 50 per *cent.*; in adults it is present in only about 20 per cent Further, pleurisy more often becomes purulent in children than in adults; indeed, empyema after pleurisy is about four or five times more common in the former than in the latter.

I think there can be little doubt that the meaning of these facts is that children have less resisting power against the invasion of the pneumococcus than is *the case* in adults, and this view is strengthened by the fact that we more often meet with pneumococcal invasion of other parts of the body than the lungs and pleura in children than in adults. Thus we find that while pneumococcal peritonitis occurs at all ages it is much more frequent in children, being most common between three and ten years of age. Similarly pneumococcal disease of joints is also most common in children, and the general invasion of the body by the pneumococcus is a very striking feature in early childhood and is most marked in infants, where we may have a regular pneumococcal septicæmia.

I need not give further examples of the general proposition that differences do occur in the incidence of various infective diseases in children and adults respectively, but may at once go on to the consideration of further points in connexion with such differences. The question of infection is a very complex matter, and a variety of factors come into play in connexion with it. On the one hand, we have the *invading parasites*, and on the other the *defensive arrangements* of the body against this invasion. I need not here go into the questions which relate to the parasites, their virulence, their habitat in the body, their habitat outside the body, the varying ease with which they gain access to the body, and so on, seeing that these points are the same whether the individual who is attacked is young or old. Passing, however, to the other partner in the infective process—namely, the animal body, we find that there are a variety of conditions which are necessary before the invading organisms can obtain a foothold in the body.

The *first line of defence* of the body resides in all probability in the epithelial tissues which oppose the entrance of infective agents into the body, and differences in the amount of resistance which they oppose to the entrance of organisms exist at different periods of life.

It is not as yet possible to define the exact meaning of the condition of the epithelium which enables it to oppose invasion. It clearly must be a local power residing in the epithelial cells themselves, or in the fixed cells on which they are situated, rather than any general condition such as the presence of opsonins in the blood, &c. It is interesting to note, as shown long ago by Lister, that where the epithelium lining a canal, the sides of which are normally in contact, is intact and healthy, bacteria cannot spread along that canal. This is true in the case of many ducts, such as the urethra, the mammary ducts, the salivary ducts, &c., and Lister used to point to this as a proof of the vital power of the tissues in preventing the growth of bacteria.

A very good example of variation in the defensive power of epithelium according to age is furnished by the behaviour of the *gonococcus*, and two points occur in connexion with this organism in children. In the first place there are reasons for believing that the susceptibility of children to the invasion of the gonococcus is greater than in adults; and in the second place the organism attacks epithelial tissues *in children, which are more or less* immune in adults. The very mode in which infection occurs in the two cases seems to imply a diminished resisting power on the part of children, for in them infection is usually accidental, being conveyed by dirty sponges, soiled linen, &c. No doubt the anatomical development of the parts such as the vulva, as age advances, may render accidental infection less easy in adults than in children, but still it occurs more readily in the latter than this would account for. The incubation period in children is also apparently shorter than in adults. The disease as it occurs in young people after infection is usually more severe than in adults, and there are various observations which seem to show that discharges which are no longer capable of infecting the mucous membranes in adults are virulent for those of children. The greater readiness with which the conjunctiva becomes infected in children may also point to increased susceptibility to the gonococcus, though possibly the fact that in infants the conjunctiva is only *one* layer of cells thick may have something to do with the greater susceptibility. The special interest, however, centres in the location of the disease in children and adults respectively—namely, in the fact that the vaginal mucous membrane is more often and more violently attacked by the gonococcus than in adults. In adults, as a matter of fact, the disease is usually *located in the cervix uteri* or in the mucous membrane of the urethra, while involvement of the vaginal mucous membrane is relatively rare and slight. Some, indeed, altogether deny the susceptibility of the vaginal mucous membrane to the gonococcus in adults and hold that when it is diseased it is only affected by a sort of desquamative catarrh caused by the maceration of the mucous membrane from the passage of the pus over it. While the vaginal mucous membrane in children is thus highly susceptible to the gonococcus it is curious that other complications caused by this organism are not so common nor so severe in children as in adults. No doubt gonococcal peritonitis does occur and it is quite likely that the so-called spontaneous peritonitis in young girls is often of gonococcal origin. Gonococcal cystitis is also not uncommon, but gonococcal infection of joints is rarer than in adults. It most commonly affects only one joint, usually the knee; hydrarthrosis is not observed, ankylosis is very rare, and on the whole the course of gonococcal joint troubles is more benign and not so chronic as in adults.

Another example of the relation of organisms to the first line of defence is furnished by the behaviour of the pyogenic organisms in the skin. *Multiple abscesses of the skin* and subcutaneous tissues are quite common in infants Impetigo is also common, but boils rarely occur. The reverse is the case in adults, where multiple abscesses of the skin are quite other matters for which it has stronger attraction. Thus was explained the remarkable germicidal energy of a lotion containing only a twentieth part of carbolic acid, as illustrated by the foul sore in the hand before referred to.

With linseed oil, on the other hand, the acid could be mixed in any proportion, and being firmly held by the oil it was mild in action, though present in the large proportion of 1 to 4, as used in the carbolic putty. The 1 to 4 carbolic oil is bland when applied to the tip of the tongue, whereas the 1 to 20 watery solution is intolerably pungent.

The acid in the watery solution, while potent in action when applied, is soon dissipated, whereas it is slow in leaving the oil. Hence the watery solution, powerful but transient in operation, was admirably adapted for application to a cut surface as a detergent, while the carbolic putty, bland in action and serving long as a store of the antiseptic, could be used with good effect not only for abscesses but also as an external dressing for operation wounds, and for that purpose I long employed it. The putty was used in a layer spread on calico, freely overlapping the skin around the wound and covered with a folded cloth to absorb the serum that flowed from beneath its edges. Although this mode of dressing gave place in time to others which were more convenient, the change effected under its use at that early period was of the most striking character: healing without suppuration, pain, or fever, instead of being the rare exception, became the rule, and operations were safely performed which had previously been utterly prohibited on account of the danger that attended them, while pyæmia and hospital gangrene, which had before been disastrously rife, were banished from my wards.

Epidermis is a substance for which carbolic acid has special attraction; and this, coupled with the facility with which the acid blends with oily matters, renders it peculiarly fitted for purifying the skin about the seat of operation and the surgeon's hands. Another property which aids its action as a detergent is its great penetrating power, not limited by the products of its chemical action upon organic substances.

I used the 1 to 20 watery solution for rendering the patient's skin and the hands of myself and my assistants aseptic throughout the 40 years during which I practised on the antiseptic principle, and I never had any reason to doubt its efficacy. No long time is required for its action. In my private practice the purification of the skin was as a rule not begun till I entered the patient's room to perform the operation. The part concerned was then thoroughly washed with the 1 to 20 carbolic solution and was kept covered with lint soaked with the same lotion while the instruments were being attended to and the anæsthetic administered, the whole process occupying only about a quarter of an hour. Yet experience showed that this brief period was sufficient.

It may perhaps be argued that under the carbolic putty or any other dressing containing carbolic acid, that volatile agent was perpetually acting on the skin and may have made up for deficiencies in the original purification. But during several years before I gave up practice the dressings did not owe their virtues to any volatile antiseptic.

I may mention in illustration one of my latest operations. The patient was a lady advanced in years, with a large ventral hernia below the umbilicus. It was producing serious symptoms; and attempts to reduce it having failed, her condition had become exceedingly grave. I only began to disinfect the skin when she was already partly under the influence of the anæsthetic. The umbilicus contained some drops of opaque liquid of a highly offensive character. I cleansed its folds carefully with the 1 to 20 carbolic solution and washed the skin over and around the sac with the same lotion. The sac was opened by a median incision, the upper end of which extended to the umbilicus. Into further details of the operation I need not enter. On changing the dressing (of cyanide gauze) it appeared that, in her frail condition, the margins of the skin at the upper end of the incision had lost their vitality over an extent of about half an inch in length and one-tenth of an inch in breadth at each side. I afterwards left the dressing unchanged for several days, when I found that the sloughs, the upper ends of which encroached on the umbilicus, so foul before the operation, had been replaced by new living tissue, and complete cicatrisation had occurred without the formation of a particle of pus.

I cannot but think it a happy circumstance that the substance which I employed first in endeavouring to apply the antiseptic principle should have been so admirably adapted for detergent purposes. And it has grieved me to learn that many surgeons have been led to substitute needlessly protracted and complicated measures for means so simple and efficient.[1]

As an instance of trouble misapplied in this matter, may be mentioned preliminary washing with soap and water. If carbolic acid is the disinfectant used, such washing is not only wholly unnecessary, but is, I believe, positively injurious; as it must tend to check the penetration of the germicide into the substance of the epidermis, by saturating it with water for which carbolic acid has so little affinity. That this practice is superfluous is, I venture to think, proved by my experience, as I never in any case adopted it.

The incomparably greater attraction of carbolic acid for epidermis than for water was strikingly illustrated by an experiment not hitherto published. . . . . .

Here my letter was broken off, in consequence of other engagements. But I afterwards wrote to Sir Hector Cameron what I had intended to say on this subject and he was good enough to incorporate my remarks in his second lecture.[2]

The Wightman Lecture

ON

THE DEFENSIVE ARRANGEMENTS OF THE BODY AS ILLUSTRATED BY THE INCIDENCE OF DISEASE IN CHILDREN AND ADULTS.

Delivered before the Society for the Study of Disease in Children on May 22nd, 1908,

By W. WATSON CHEYNE, C.B., F.R.S., &c.,
SENIOR SURGEON TO KING'S COLLEGE HOSPITAL, ETC.

GENTLEMEN,—The choice of a subject for the present lecture has been a matter of very great difficulty, and if it has not been a very fortunate one I must crave your kind indulgence. It seems to me that the object of lectures such as these is best attained by making an attempt to present a wide view of some general subject and one suggestive of future research rather than to discuss some more limited matter which would be better suited for a paper at an ordinary meeting of the society. Hence it was among the former class of topics that my choice lay, and it has occurred to me that the subject of the relative resisting power of children and adults against infective diseases was well worth special study.

In dealing with diseases of children and adults one is often struck by the fact that marked variations occur at different ages; indeed, it is the existence of these variations which justifies a partial separation of children's diseases from those of adults, and the establishment of separate children's hospitals or, at any rate, of wards in general hospitals set apart for the treatment of children. In the present lecture I shall speak only of diseases which are due to the entrance of parasitic organisms from without with special reference to the points of difference in children and adults. I am not able to explain these differences satisfactorily, I can only indicate some of the points which arise in the hope that some members of this society who have more time and more ability than I have will turn their attention to the study of these matters. I believe that the successful study of the differences in the resisting power of children to infective diseases as compared with adults will give the key to much of the obscurity and difficulty which still surround the questions of infection, protection, and immunity.

In looking into this subject we find that there are some diseases which practically only occur during childhood, and *vice versâ* that there are certain diseases common in adult life which hardly ever affect children. Again, we find that there are many infective diseases which attack both adults and children, but the young are more especially susceptible to some, while their elders are more susceptible to others. Or, the epiphysis itself, and boys and girls are affected pretty equally. The anatomical arrangement of the part may possibly exercise some influence in favouring infection and determining the spread of the disease but it is evidently a very minor factor.

---

[1] The fear sometimes expressed of poisonous effects from carbolic acid, as used in antiseptic surgery, is, so far as my experience goes, entirely groundless

[2] Brit. Med. Jour., April 6th, 1907, p. 799.

It seems to me, then, that the localisation of the disease is in the main a vital question which may be summed up under the term "*local predisposition.*" As showing the complexity of this subject it may be pointed out that similar tissues in different parts of the body do not show the same susceptibility. Thus we know that the gonococcus seldom affects any mucous membranes except those of the urethra and the conjunctiva. And we shall presently see how tissues of various joints and bones in the body react differently to the tubercle bacillus at different ages. The same is the case if we take more general diseases. Thus in the case of plague Dr. W. J. Simpson points out that bubonic plague especially attacks the lymphatic glands in the groin and the axilla, especially in the groin, no matter whether the infection has occurred by punctures of the surface or in some less defined manner. We must therefore assume that the lymphatic glands in the groin differ in some way or other in their vital relations to these particular organisms from other lymphatic tissues in the body. To take another example, in acute tuberculosis, although we must assume that there is a general flooding of the blood stream with tubercle bacilli and that the circulating blood carries organisms all over the body, we nevertheless find that the bacilli are not deposited and grow anywhere indifferently but that they select certain organs and tissues. For example, they are seldom found in the muscles and cellular tissues. In the case of infants who die from tuberculosis during the first four months of life it is found that the disease is practically always general, but the parts of the body in which the tubercles are deposited vary very considerably. Thus in post-mortem examinations of these infants tubercles are found in the lungs in all cases, in the bronchial glands in 99 per cent. of the cases, in the liver in 88 per cent., in the spleen in 86 per cent., in the brain in 24 per cent., and so on. And again, taking the brain for example, they are not equally deposited over the whole brain but prefer to locate themselves along the vessels at the base.

This local predisposition varies to a very marked extent with the age of the patient, the parts affected differing at different periods of life. Perhaps the best example of these variations is furnished by the incidence of *tuberculous diseases of bones and joints* at various ages. In the great majority of cases of tuberculous disease where the bacilli which escape into the blood stream are few in number a very close selection is made, and only one or at most a few local deposits occur, and that apparently only under the most favourable conditions. What these conditions are which favour the deposit of tubercle bacilli in a particular part we really do not know, but, as has just been said, they vary with age and to some extent with sex, and also with a variety of so-called predisposing causes, such as injury or chronic inflammation.

Some years ago I collected a large number of cases of diseases of bones and joints in adults and children which had been treated in hospital, and the following remarks are founded on these statistics. In the first instance, taking a general view of the relative frequency of disease in bones and joints at different ages, I would direct attention to the accompanying table, which gives the percentage frequency of the total cases of disease of bones and joints in my list in each quinquennial period up to the age of 40 years.

TABLE I.—*Percentage Frequency of Cases of Disease of Bones and Joints in Each Quinquennial Period up to the Age of 40 Years.*

Age-periods—years.	Percentage of total number of cases.	Age-periods—years.	Percentage of total number of cases.
1 to 5	23·3	21 to 25	8·5
6 ,, 10	18·0	26 ,, 30	8·6
11 ,, 15	14·3	31 ,, 35	4·0
15 ,, 20	15·0	36 ,, 40	3·0

This table indicates clearly the great importance of age in relation to the occurrence of these diseases, but it does not accurately represent the facts of the case. Thus it may quite well be that a greater number of cases occur during the first five years of life, because a greater number of persons are alive at that age than during any other quinquennial period. Conversely, for the same reason, it may turn out that the disease is much more frequent than appears to be the case during the later quinquennial periods, owing to the smaller number of persons alive at that time. Investigations of this kind have been made with regard to phthisis, and have led to the surprising result that in Copenhagen, Sweden, and various German cities with regard to which calculations have been made, the danger of phthisis in any given individual constantly increases with advancing age, and that in advanced life a larger proportion of the individuals alive at that age die from phthisis than at the period of life in which it has been supposed to be most common.

Employing the German statistics of the proportion of persons per 1000 alive at various ages, I have calculated the real frequency of the disease in my cases, and in the following table we have the ratio per 1000 of my cases of disease of the seven larger joints, beginning in each quinquennial period. In the second column I give the apparent frequency of the cases without relation to the number of persons alive at the different ages, and in the third column the real frequency as calculated by the above method. I only give the results up to 45 years of age:—

TABLE II.—*Ratio per 1000 of Cases of Disease of the Seven Larger Joints in Each Quinquennial Period up to the Age of 45 Years.*

Age-period—years.	Apparent frequency.	Real frequency.
1 to 5	232	157
6 ,, 10	153	134
11 ,, 15	150	145
16 ,, 20	153	164
21 ,, 25	85	98
26 ,, 30	88	120
31 ,, 35	41	60
36 ,, 40	30	48
41 ,, 45	20	42

From this table it will be seen broadly that the real frequency of these diseases is actually greater in advanced life than would appear from the ordinary statistics, but still a good deal less than in youth. In my list the disease commences most frequently between one and five years of age; it then declines and rises again between 15 and 20 years; it subsequently steadily declines, with the exception of slight rises between 35 and 40 years and 45 and 50 years. The accuracy of the last numbers, which are not given here, is, however, very doubtful, because the cases in my list which commenced at those ages were quite few in number. Great differences also exist as to the period of life at which the disease commences in the different joints and bones, as is evident from the following table, in which I have indicated the percentage proportion of the cases of disease in each of the seven larger joints, commencing in each decade:—

TABLE III.—*Percentage Proportion of Cases of Disease of each of the Seven Larger Joints in each of Five Decades.*

Joints.	Decades.				
	I.	II.	III.	IV.	V.
Hip	30·2	29·3	4·8	—	12·5
Knee	29·5	22·5	18·2	36·6	6·2
Ankle	5·4	5·9	3·6	3·3	12·5
Tarsus	4·6	5·9	8·4	3·3	18·7
Shoulder... ...	—	1·6	4·8	—	—
Elbow	6·7	9·2	6·0	13·3	18·7
Wrist	0·6	8·4	15·8	13·3	6·2

Thus reading the table from above downwards we see that of the total cases of tuberculous bone and joint disease which commenced during the first decade, 30·2 per cent. were cases of hip-joint disease, 29·5 per cent. were cases of knee-joint disease, and so on. Reading the table from side to side, we see the frequency with which disease of each part commences in each decade; thus hip joint disease commences most often during the first decade, and its frequency diminishes very rapidly. The knee-joint is also very frequently attacked during the first decade, but the fall in its frequency is by no means so rapid, and so on.

Not only does the resisting power of the body vary in the same individual at different ages, but it is very interesting to note that it often varies very considerably in the two uncommon, their place being taken by boils. What the explanation of the difference is is not quite clear, but it is quite possible that in this instance it is in the main a question of differences in the anatomical structure of the skin rather than of general defensive arrangements. Thus in children the desquamation of the skin is more active and there is also incomplete development of the corneous layer of the epidermis in various places; in fact, the epidermis in children is very thin and extremely fragile and it desquamates readily, leaving the rete mucosum exposed. The papillary layer of the skin is also very rich in blood-vessels and reacts readily to all irritations.

Having overcome the first line of defence, the parasites either produce a local disease at that part, as we have seen in the case of the gonococcus, or else (and this happens in the majority of cases) they pass on into the lymph or blood stream and are carried to various parts of the body. In this latter case, having passed the epithelial line of defence, they then find themselves in closed tubes lined with endothelium. Apparently some forms of bacteria, having reached the circulating blood, can multiply in it and set up disease, but the great majority, and probably to a greater or less extent all, have to find a local resting place; if they fail to do so they quickly die out. We may imagine the bacteria being carried along in the circulation through the various tissues of the body, investigating these tissues as they pass through them till at last they find somewhere or other in the endothelial lining of the vessels conditions which are favourable for their growth or penetration, and therefore we may assume the existence of a *second defensive arrangement—namely, the endothelium.* Having found a weak spot in the endothelial lining they grow there and produce disease or else they pass through the wall of the vessel as they did through the epithelium, and multiply in the tissues outside. We have evidence that in a good many cases the parasites grow in the endothelial lining of the vessels. In syphilis, for example, endarteritis is the chief lesion and is probably due to localisation of the spirochæta in the inner coat of the small vessels. In the case of tubercle also I pointed out some years ago in my essay for the Astley Cooper prize that many tubercles are formed in the first instance in the interior of the blood-vessels possibly by proliferation of the endothelium, and in some specimens one can see tubercles in all stages clearly illustrating this point.

What the local predisposition on the part of the endothelium and the tissues signifies it is difficult to say. To some slight extent it may have to do with the *general trophic condition of the parts*, as influenced by the action of the nerves. In connexion with this point I may refer to the interesting observations which have been made by Mr. Cheatle on the sites of development of epithelial cancer and its mode of spread, in which he produces some very remarkable examples of the spread of cancer along certain definite nerve areas, avoiding neighbouring areas supplied by other nerves. To a considerable extent it may be a question of *pabulum.* That the nature of the pabulum is of very great importance in the artificial cultivation of micro-organisms is, of course, well known. We know, for example, that it is not easy to cultivate the tubercle bacillus outside the body; we know that in cultivating the gonococcus it is necessary to have a little human blood on the surface of the cultivating medium to enable the growth to start; and we know that up to the present investigators have not been able to find a soil and external conditions which are suitable for the growth of various other infective organisms, such as those of leprosy, &c. It is, therefore, not at all unlikely that in the living body the question of suitable pabulum may have a good deal to do with the localisation and growth of the organisms.

An example which seems to point in this direction is that of *ringworm of the scalp.* This disease may affect children of all ages but is rarely noticed before three or after 14 years of age; it never appears after the age of 15 and adults may mix freely with children suffering with ringworm of the scalp without being attacked by the disease, while on the other hand it is extremely infectious for children and will run through a school very quickly. The disease if left to itself disappears spontaneously at puberty, fresh and healthy hairs growing on the affected site. This is a very curious case and it seems difficult to frame a reasonable explanation. The fungus penetrates into the hairs close to the roots, but it evidently does not destroy the hair bulbs, otherwise the hairs would not grow again. It is therefore growing in what is practically dead tissue, or at the best in tissue of extremely low vitality, and the curious thing is that though it grows readily in this tissue in children it cannot grow in what is to all appearance the same material in persons over 15 years of age. Is it that there is a difference in the chemical composition of the hairs in adults and children, and is it only in children that they provide suitable food for the fungus? or is it that the fungus penetrates into tissue which still retains a certain amount of vitality, and are there more vitality and more resisting power in it in adults than in children? Whatever be the explanation, I think that this question of the suitability or unsuitability of the food which the parasite finds in the part which it invades must not be overlooked in considering the various factors which go to make up the defensive arrangements of the body.

Another example which may be mentioned in this connexion is that of the common *threadworm*, which is only, or at any rate very much more often found in children than in adults. Threadworms are very common in the large intestine of children, and they probably enter along with the food or drink. They occur in children at an age when their food is practically the same as adults, and yet threadworms are essentially a disease of childhood. May not this again be simply a question of pabulum? Is there a difference in the contents of the large intestine in children and adults, consisting in the presence of substances suitable for the existence of these worms in the former, such substances disappearing as the individual reaches adult life? Or is it that there is something in the intestinal secretions of adults which is inimical to the growth of the threadworm and which is absent in children? This might be an interesting physiological problem to work out. I can hardly think that in this case, at any rate, it can be a question of tissue resistance, for the worms grow in the fæces and can hardly be affected by the living cells lining the canal.

In this connexion, also, I may refer to an interesting point—viz., that bacteria of the same species may acquire a special appetite, so to speak, for certain tissues. For example, while we look on the staphylococcus pyogenes as an organism which may cause suppuration indifferently in any suitable tissue in which it may happen to find a proper resting place, we find that in certain cases where fresh developments of these organisms take place in the same individual, they are apt to occur in connexion with similar tissues. Thus I have repeatedly seen cases of staphylococcal osteomyelitis in which fresh outbreaks of osteomyelitis have occurred in several bones in succession without the occurrence of suppuration in other tissues of the body, as if the organisms which had settled in the bone in the first instance had acquired an appetite for bone, and when carried to other parts of the body again selected the growing ends of the bone for their development. This is perhaps still better seen in tubercle, where in cases of tuberculous disease of the bone we not uncommonly find that if fresh tuberculous disease occurs it is in other bones, and the tubercle may remain limited to bone for a long time. This is often the case, for example, in infants with tuberculous osteomyelitis of the small bones of the hands and feet. Again, we have the tubercle bacilli in some cases showing a special tendency to grow in the lymphatic glands and not for a time spreading in other tissues, or in other cases growing in the skin and giving rise to lupus without leading to tuberculous disease elsewhere.

Stress has also been laid by some on the *anatomical arrangements* of the various parts as favouring the deposit of micro-organisms in certain situations. For example, in the case of osteomyelitis the slower circulation at the epiphysial line may permit the deposit of organisms at that part, and thus account for the localisation in cases of this disease; indeed, it has been found experimentally that pigment granules injected into the blood are deposited in these situations. We cannot, however, accept this as the only, or indeed as a particularly important, factor, for many things point to something much more far-reaching than a mechanical deposition of bacteria. Thus the incidence of disease in various bones differs according to age and also according to sex. For example, osteomyelitis is most common between the ages of 12 and 18, and at that age it is more frequent in the lower extremity than in the upper and also more frequent in boys than in girls. On the other hand, the disease may attack children at a much earlier period of life, even below two years of age; in that case the upper extremity is affected nearly as often as the lower; the limitation of the disease in the first instance to the epiphysial line is not so marked, and indeed the lesions may occur in the epiphysis itself, and boys and girls are affected pretty equally. The anatomical arrangement of the part may possibly exercise some influence in favouring infection and determining the spread of the disease but it is evidently a very minor factor.

It seems to me, then, that the localisation of the disease is in the main a vital question which may be summed up under the term "local predisposition." As showing the complexity of this subject it may be pointed out that similar tissues in different parts of the body do not show the same susceptibility. Thus we know that the gonococcus seldom affects any mucous membranes except those of the urethra and the conjunctiva. And we shall presently see how tissues of various joints and bones in the body react differently to the tubercle bacillus at different ages. The same is the case if we take more general diseases. Thus in the case of plague Dr. W. J. Simpson points out that bubonic plague especially attacks the lymphatic glands in the groin and the axilla, especially in the groin, no matter whether the infection has occurred by punctures of the surface or in some less defined manner. We must therefore assume that the lymphatic glands in the groin differ in some way or other in their vital relations to these particular organisms from other lymphatic tissues in the body. To take another example, in acute tuberculosis, although we must assume that there is a general flooding of the blood stream with tubercle bacilli and that the circulating blood carries organisms all over the body, we nevertheless find that the bacilli are not deposited and grow anywhere indifferently but that they select certain organs and tissues. For example, they are seldom found in the muscles and cellular tissues. In the case of infants who die from tuberculosis during the first four months of life it is found that the disease is practically always general, but the parts of the body in which the tubercles are deposited vary very considerably. Thus in post-mortem examinations of these infants tubercles are found in the lungs in all cases, in the bronchial glands in 93 per cent. of the cases, in the liver in 33 per cent., in the spleen in 33 per cent., in the brain in 27 per cent., and so on. And again, taking the brain for example, they are not equally deposited over the whole brain but prefer to locate themselves along the vessels at the base.

This local predisposition varies to a very marked extent with the age of the patient, the parts affected differing at different periods of life. Perhaps the best example of these variations is furnished by the incidence of *tuberculous disease of bones and joints* at various ages. In the great majority of cases of tuberculous disease where the bacilli which escape into the blood stream are few in number a very close selection is made, and only one or at most a few local deposits occur, and that apparently only under the most favourable conditions. What these conditions are which favour the deposit of tubercle bacilli in a particular part we really do not know, but, as has just been said, they vary with age and to some extent with sex, and also with a variety of so-called predisposing causes, such as injury or chronic inflammation.

Some years ago I collected a large number of cases of diseases of bones and joints in adults and children which had been treated in hospital, and the following remarks are founded on these statistics. In the first instance, taking a general view of the relative frequency of disease in bones and joints at different ages, I would direct attention to the accompanying table, which gives the percentage frequency of the total cases of disease of bones and joints in my list in each quinquennial period up to the age of 40 years.

TABLE I.—*Percentage Frequency of Cases of Disease of Bones and Joints in Each Quinquennial Period up to the Age of 40 Years.*

Age-periods—years.	Percentage of total number of cases.	Age-periods—years.	Percentage of total number of cases.
1 to 5	[illegible]	20 to 25	[illegible]
5 " 10	[illegible]	25 " 30	[illegible]
10 " 15	[illegible]	30 " 35	[illegible]
15 " 20	[illegible]	35 " 40	[illegible]

This table indicates clearly the great importance of age in relation to the occurrence of these diseases, but it does not accurately represent the facts of the case. Thus it may quite well be that a greater number of cases occur during the first five years of life, because a greater number of persons are alive at that age than during any other quinquennial period. Conversely, for the same reason, it may turn out that the disease is much more frequent than appears to be the case during the later quinquennial periods, owing to the smaller number of persons alive at that time. Investigations of this kind have been made with regard to phthisis, and have led to the surprising result that in Copenhagen, Sweden, and various German cities with regard to which calculations have been made, the danger of phthisis in any given individual constantly increases with advancing age, and that in advanced life a larger proportion of the individuals alive at that age die from phthisis than at the period of life in which it has been supposed to be most common.

Employing the German statistics of the proportion of persons per 1000 alive at various ages, I have calculated the real frequency of the disease in my cases, and in the following table we have the ratio per 1000 of my cases of disease of the seven larger joints, beginning in each quinquennial period. In the second column I give the apparent frequency of the cases without relation to the number of persons alive at the different ages, and in the third column the real frequency as calculated by the above method. I only give the results up to 45 years of age:—

TABLE II.—*Ratio per 1000 of Cases of Disease of the Seven Larger Joints in Each Quinquennial Period up to the Age of 45 Years.*

Age-period—years.	Apparent frequency.	Real frequency.
1 to 5	[illegible]	[illegible]
5 " 10	[illegible]	[illegible]
10 " 15	[illegible]	[illegible]
15 " 20	[illegible]	[illegible]
20 " 25	[illegible]	[illegible]
25 " 30	[illegible]	[illegible]
30 " 35	[illegible]	[illegible]
35 " 40	[illegible]	[illegible]
40 " 45	[illegible]	[illegible]

From this table it will be seen broadly that the real frequency of these diseases is actually greater in advanced life than would appear from the ordinary statistics, but still a good deal less than in youth. In my list the disease commences most frequently between one and five years of age; it then declines and rises again between 15 and 20 years; it subsequently steadily declines, with the exception of slight rises between 35 and 40 years and 45 and 50 years. The accuracy of the last numbers, which are not given here, is, however, very doubtful, because the cases in my list which commenced at those ages were quite few in number. Great differences also exist as to the period of life at which the disease commences in the different joints and bones, as is evident from the following table, in which I have indicated the percentage proportion of the cases of disease in each of the seven larger joints, commencing in each decade:—

TABLE III.—*Percentage Proportion of Cases of Disease of each of the Seven Larger Joints in each of Five Decades.*

Joints.	Decades.				
	I.	II.	III.	IV.	V.
Hip	30·2	[illegible]	[illegible]	—	[illegible]
Knee	29·5	[illegible]	[illegible]	[illegible]	[illegible]
Ankle	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tarsus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Shoulder ...	—	[illegible]	[illegible]	—	—
Elbow	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wrist	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Thus reading the table from above downwards we see that of the total cases of tuberculous bone and joint disease which commenced during the first decade, 30·2 per cent. were cases of hip-joint disease, 29·5 per cent. were cases of knee-joint disease, and so on. Reading the table from side to side, we see the frequency with which disease of each part commences in each decade; thus hip-joint disease commences most often during the first decade, and its frequency diminishes very rapidly. The knee-joint is also very frequently attacked during the first decade, but the fall in its frequency is by no means so rapid, and so on.

Not only does the resisting power of the body vary in the same individual at different ages, but it is very interesting to note that it often varies very considerably in the two uncommon, their place being taken by boils. What the explanation of the difference is is not quite clear, but it is quite possible that in this instance it is in the main a question of differences in the anatomical structure of the skin rather than of general defensive arrangements. Thus in children the desquamation of the skin is more active and there is also incomplete development of the corneous layer of the epidermis in various places; in fact, the epidermis in children is very thin and extremely fragile and it desquamates readily, leaving the rete mucosum exposed. The papillary layer of the skin is also very rich in blood-vessels and reacts readily to all irritations.

Having overcome the first line of defence, the parasites either produce a local disease at that part, as we have seen in the case of the gonococcus, or else (and this happens in the majority of cases) they pass on into the lymph or blood stream and are carried to various parts of the body. In this latter case, having passed the epithelial line of defence, they then find themselves in closed tubes lined with endothelium. Apparently some forms of bacteria, having reached the circulating blood, can multiply in it and set up disease, but the great majority, and probably to a greater or less extent all, have to find a local resting place; if they fail to do so they quickly die out. We may imagine the bacteria being carried along in the circulation through the various tissues of the body, investigating these tissues as they pass through them till at last they find somewhere or other in the endothelial lining of the vessels conditions which are favourable for their growth or penetration, and therefore we may assume the existence of a *second defensive arrangement—namely, the endothelium.* Having found a weak spot in the endothelial lining they grow there and produce disease or else they pass through the wall of the vessel as they did through the epithelium, and multiply in the tissues outside. We have evidence that in a good many cases the parasites grow in the endothelial lining of the vessels. In syphilis, for example, endarteritis is the chief lesion and is probably due to localisation of the spirochæta in the inner coat of the small vessels. In the case of tubercle also I pointed out some years ago in my essay for the Astley Cooper prize that many tubercles are formed in the first instance in the interior of the blood-vessels possibly by proliferation of the endothelium, and in some specimens one can see tubercles in all stages clearly illustrating this point.

What the local predisposition on the part of the endothelium and the tissues signifies it is difficult to say. To some slight extent it may have to do with the *general trophic condition of the parts*, as influenced by the action of the nerves. In connexion with this point I may refer to the interesting observations which have been made by Mr. Cheatle on the sites of development of epithelial cancer and its mode of spread, in which he produces some very remarkable examples of the spread of cancer along certain definite nerve areas, avoiding neighbouring areas supplied by other nerves. To a considerable extent it may be a question of *pabulum.* That the nature of the pabulum is of very great importance in the artificial cultivation of micro-organisms is, of course, well known. We know, for example, that it is not easy to cultivate the tubercle bacillus outside the body; we know that in cultivating the gonococcus it is necessary to have a little human blood on the surface of the cultivating medium to enable the growth to start; and we know that up to the present investigators have not been able to find a soil and external conditions which are suitable for the growth of various other infective organisms, such as those of leprosy, &c. It is, therefore, not at all unlikely that in the living body the question of suitable pabulum may have a good deal to do with the localisation and growth of the organisms.

An example which seems to point in this direction is that of *ringworm of the scalp.* This disease may affect children of all ages but is rarely noticed before three or after 14 years of age; it never appears after the age of 15 and adults may mix freely with children suffering with ringworm of the scalp without being attacked by the disease, while on the other hand it is extremely infectious for children and will run through a school very quickly. The disease if left to itself disappears spontaneously at puberty, fresh and healthy hairs growing on the affected site. This is a very curious case and it seems difficult to frame a reasonable explanation. The fungus penetrates into the hairs close to the roots, but it evidently does not destroy the hair bulbs, otherwise the hairs would not grow again. It is therefore growing in what is practically dead tissue, or at the best in tissue of extremely low vitality, and the curious thing is that though it grows readily in this tissue in children it cannot grow in what is to all appearance the same material in persons over 15 years of age. Is it that there is a difference in the chemical composition of the hairs in adults and children, and is it only in children that they provide suitable food for the fungus? or is it that the fungus penetrates into tissue which still retains a certain amount of vitality, and are there more vitality and more resisting power in it in adults than in children? Whatever be the explanation, I think that this question of the suitability or unsuitability of the food which the parasite finds in the part which it invades must not be overlooked in considering the various factors which go to make up the defensive arrangements of the body.

Another example which may be mentioned in this connexion is that of the common *threadworm*, which is only, or at any rate very much more often found in children than in adults. Threadworms are very common in the large intestine of children, and they probably enter along with the food or drink. They occur in children at an age when their food is practically the same as adults, and yet threadworms are essentially a disease of childhood. May not this again be simply a question of pabulum? Is there a difference in the contents of the large intestine in children and adults, consisting in the presence of substances suitable for the existence of these worms in the former, such substances disappearing as the individual reaches adult life? Or is it that there is something in the intestinal secretions of adults which is inimical to the growth of the threadworm and which is absent in children? This might be an interesting physiological problem to work out. I can hardly think that in this case, at any rate, it can be a question of tissue resistance, for the worms grow in the fæces and can hardly be affected by the living cells lining the canal.

In this connexion, also, I may refer to an interesting point—viz., that bacteria of the same species may acquire a special appetite, so to speak, for certain tissues. For example, while we look on the staphylococcus pyogenes as an organism which may cause suppuration indifferently in any suitable tissue in which it may happen to find a proper resting place, we find that in certain cases where fresh developments of these organisms take place in the same individual, they are apt to occur in connexion with similar tissues. Thus I have repeatedly seen cases of staphylococcal osteomyelitis in which fresh outbreaks of osteomyelitis have occurred in several bones in succession without the occurrence of suppuration in other tissues of the body, as if the organisms which had settled in the bone in the first instance had acquired an appetite for bone, and when carried to other parts of the body again selected the growing ends of the bone for their development. This is perhaps still better seen in tubercle, where in cases of tuberculous disease of the bone we not uncommonly find that if fresh tuberculous disease occurs it is in other bones, and the tubercle may remain limited to bone for a long time. This is often the case, for example, in infants with tuberculous osteomyelitis of the small bones of the hands and feet. Again, we have the tubercle bacilli in some cases showing a special tendency to grow in the lymphatic glands and not for a time spreading in other tissues, or in other cases growing in the skin and giving rise to lupus without leading to tuberculous disease elsewhere.

Stress has also been laid by some on the *anatomical arrangements* of the various parts as favouring the deposit of micro-organisms in certain situations. For example, in the case of osteomyelitis the slower circulation at the epiphysial line may permit the deposit of organisms at that part, and thus account for the localisation in cases of this disease; indeed, it has been found experimentally that pigment granules injected into the blood are deposited in these situations. We cannot, however, accept this as the only, or indeed as a particularly important, factor, for many things point to something much more far-reaching than a mechanical deposition of bacteria. Thus the incidence of disease in various bones differs according to age and also according to sex. For example, osteomyelitis is most common between the ages of 12 and 18, and at that age it is more frequent in the lower extremity than in the upper and also more frequent in boys than in girls. On the other hand, the disease may attack children at a much earlier period of life, even below two years of age; in that case the upper extremity is affected nearly as often as the lower; the limitation of the disease in the first instance to the epiphysial line is not so marked, and indeed the lesions may occur in the largest number of cases occur below 20 years of age and therefore presumably during the most susceptible period, the greatest mortality takes place in patients above 20 years of age. In the case of tubercle we find also that while it is most common in young people the disease is most obstinate and less amenable to treatment in old people. And again with regard to tubercle, while it is not common during the first year of life, when it does occur it assumes a very grave type owing chiefly to the fact that it is very apt to become generalised, and this is also true in the case of other infections, such as pneumococcal, streptococcal, &c. We have, however, many examples in the other direction. Typhus fever, for instance, is rarer in children than in adults, but it is not so dangerous in children as in adults. Again, typhoid fever is not so common in young children as in young adults, being most frequent between 20 and 30 years of age and quite exceptional below eight years of age. We may therefore assume that susceptibility to typhoid fever is small below eight years of age, that it reaches its height between 20 and 30 years of age, and again diminishes later. But the curious point is that the mortality increases as the age advances, being 11·3 per cent. in children below ten years of age and reaching 34 per cent. in persons over 50 years of age. Other examples of both these points might be given but the above will suffice for our purpose.

A probable explanation of these facts is somewhat difficult to formulate, but the two following points are, I think, worth taking into consideration. In the first place, I have already referred to the question of relative dosage of bacteria in speaking of injury, and it is quite possible that this point also comes into play here. Thus, while a comparative small dose will suffice to set up the disease in a susceptible individual it requires a larger dose where the subject is less susceptible. And in accordance with the results which I obtained some years ago the resulting disease with the larger dose in the less susceptible individual would be more severe than that with the smaller dose in the more susceptible person. But in the second place I would point out that it is as a rule when the less susceptible individual is over the average age that the resulting disease is more severe, whereas this is not necessarily the case when he is under the average age, always excepting the first year of life. Hence it is probable that another factor besides resisting power comes into play in infective disease, and it is with the view of calling attention to this other possible factor that I have introduced the matter here; this factor may be indefinitely spoken of as *recuperative power*. It is quite probable that apart from the agents which actually take their place in the fight against the invading parasites there are other agencies which have to do with the maintenance of the health of the body and with the restoration of strength after it has been subjected to infection, and those I should group under the term "recuperative power." And I am inclined to think that some factor of this kind plays an important part in the recovery of patients from infective disease, quite apart from any anti-toxic or anti-bacterial agencies. Leaving out the question of infective diseases, we know that as people get older they do not recover so quickly and perfectly from injury or illness as is the case in youth. To some extent, and probably to a considerable extent in old people, this has to do with the gradual onset of degenerative changes in the various tissues and perhaps more especially in connexion with the blood-vessels. If I am correct in suspecting the existence of some further vital energy of this kind its importance in treatment cannot be overlooked, and especially it warns us not to pin our faith as regards treatment to one single point but to try to influence all the agencies which have to do with the well-being of the individual.

Time will not permit me to pursue this subject further. I could have mentioned many other facts in illustration of the points to which I have referred, but those which I have picked out seem sufficient to show the bearings of the matter and to indicate its great interest and importance. Especially I think there can be no doubt of the existence of local conditions in the tissues and organs of the body which have a very important bearing on the occurrence of infection and on recovery from it. Indeed, in my opinion, the local conditions, which we have grouped together under the heading of "local resisting power," are of much more importance than any general agency which may be present in the blood stream.

I have already indicated some points which have to be taken into consideration in connexion with this question of local resisting power but in spite of all the work that has been done we are still in the stage of theory One point I may refer to in connexion with this matter and that is the remarkable difference as regards leucocytosis in the new-born and in later life, taking the example of erysipelas. Erysipelas shows very marked differences in gravity at various periods of life and under various circumstances, and it is more especially grave in the case of infants. Infantile erysipelas usually appears from the tenth to the fifteenth day after birth and generally spreads from the umbilicus. Its mortality at that age is at least 50 per cent., but the mortality steadily falls in older children. On examining the parts in infantile erysipelas the interesting fact is observed that there is almost complete absence of local leucocytosis. In the adult, leucocytes group themselves in large numbers around and within the blood and lymphatic vessels, while in the new-born one finds the vessels dilated it is true, but this is due to the presence of masses of streptococci and not to leucocytes. Enlargement of the lymphatic glands, which also occurs in adults, may be very slight or absent in children.

On the other hand, leaving out the first year of life, there seems to be a slight increase in general leucocytosis in children under ten years of age as compared with older people in some of these infective conditions. This has been especially pointed out in cases of otitis and mastoiditis.

That the conditions summed up under the term "local resisting power" are much more important than the more general conditions seems to me to be certain and I have mentioned quite a number of points which indicate this. I have especially referred to the varying local incidence of disease at different ages and under different conditions; and I may also mention another very striking point as showing the importance of local as compared with general defensive arrangements. It is this, that in some cases one finds a disease making good progress towards healing at one part of the body, while at the same time a fresh outbreak is taking place at another. Take, for example, the case of tertiary syphilitic ulcerations. One of the important diagnostic points after a tertiary ulcer has lasted for some time is the tendency which it has to heal at one side while it spreads at the other, in this way giving rise to the serpiginous form of these ulcers. If the healing were due to general conditions in the serum, why should it not occur all round, and why, if the resisting power has been so much improved as to lead to healing at one part, does the disease actually progress at another part in the vicinity? The same is frequently seen in the case of tuberculosis; it is not at all uncommon to find one tuberculous deposit healing or becoming quiescent, while another becomes active or a fresh one actually appears. A very good example of that is seen in tuberculosis of the epididymis, where the disease on the one side and also in the vesiculæ seminales may be steadily improving when all of a sudden the other side becomes affected and not uncommonly runs a more virulent and rapid course than the first. I have seen exactly the same thing happen on several occasions in cases of tuberculosis which had been under steady opsonin treatment for a long time, some of them over a year. Thus, in one case of tuberculous epididymitis which I recall the disease in the epididymis was particularly acute in the first instance, and I advised opsonic treatment rather than operation. Ultimately, however, as the testicle became completely destroyed by suppuration, castration became necessary. Opsonic treatment was still steadily continued under the best auspices, but in spite of that, residence at the seaside, &c., the disease appeared acutely in the other epididymis, while the treatment was still going on, and I had to perform an epididymectomy without delay in order to save the other testicle. The course which the disease followed was in reality the same as if no attempt had been made to increase the general resisting power.

At the present time it is the fashion to look on the opsonic content of the blood as the essential agent concerned in bringing about immunity and cure in the case of infective diseases. This is a matter on which neither time nor knowledge permits me to enter at length. I have, however, searched the literature, inquired among investigators, and had a few observations made for me without finding any marked differences in the opsonic index to different organisms at various periods of life corresponding to the variations in the incidence of disease, and in their course at different ages; nor has any difference in the opsonic index to various infective organisms been pointed out as regards sex, and yet, as we have seen, there are noticeable variations in the incidence and severity sexes. Thus, speaking of tuberculous diseases of bones and joints, I find that of the patients on my list 65 per cent. were males and only 35 per cent. were females. Indeed, most forms of surgical tuberculosis are more frequent in boys than in girls. The following table[1] gives the percentage relations of males and females (hospital in-patients) in regard to diseases of the seven larger joints, and it will be noticed that not only are males more frequently affected than females but that the proportion differs in different joints. And not only are there differences in the incidence of disease in the two sexes, but the disease in the female seems to be as a rule more benign than in the male. That is a very interesting matter, which, however, I have no time to discuss here. I may also remark that while this is the case with regard to diseases of joints it does not necessarily hold good with regard to some other forms of tuberculous disease. Thus tuberculous peritonitis is almost equally frequent in the two sexes, while lupus is much more common in females than in males.

TABLE IV.—*Percentage Relations of Males and Females in Each Joint*

Sexes.	Hip.	Knee.	Ankle.	Tarsus.	Shoulder.	Elbow.	Wrist.
Males	59·7	57·6	81·9	85·8	50	74·3	75 9
Females	40 3	42·4	18·1	14·2	50	25 7	24·1

The predisposition and resisting power of the body, both local and general, to parasitic invasion vary very markedly under a variety of circumstances and are often *very sensitive to external conditions.* Even the *seasons of the year* apparently have their influence on the resisting power of the body. For example, erysipelas is more frequent at certain periods of the year than at others, especially during February and November, and lupus is said to improve in autumn and to become worse in spring.

One of the most important causes which influence the local predisposition of a part is *injury.* In the case of the epithelial tissues injury is naturally of great importance in connexion with their defensive action. If there is a solution of continuity in these tissues parasites may enter through a breach of the surface without being subjected to the action of the epithelium at all. On the other hand, without actually destroying the epithelium, the injury may so depress the vitality of the cells that they can no longer successfully resist the parasitic invasion.

A very good example of the effect of injury is furnished by the history of tuberculous disease of bones and joints, and the facts are of considerable interest. As a rule, where a case of joint disease is referred to an injury the history given is usually that of some slight injury, such as a strain or slight blow; indeed, it is noteworthy that after severe injuries in tuberculous subjects, such as fractures or amputations, tuberculous disease does not occur at the seat of injury. Thus, I can recall more than one instance of patients suffering from tuberculous joint disease who sustained fractures, in one case of the shaft of a bone, the epiphysis of which was already diseased, where the fractured ends have reunited without the development of any tuberculous disease at the seat of injury. And as regards amputation, unless the operation is carried out through parts which are actually diseased, one does not expect to have a tuberculous stump as a result, however many tuberculous lesions the patient may suffer from. We also not uncommonly notice that after tuberculous joint disease has become quiescent, or even apparently got well, it may recur as the result of a slight injury.

A further point which is worth mentioning is that injury to some joints seems more likely to be followed by tuberculous disease than injury to other joints. This fact is in accordance with the view which the above tables must lead us to assume, that the different joints vary in their predisposition to tuberculous disease, and that consequently injury is more likely to have an effect in determining its occurrence in those joints which are naturally the most predisposed.

Lastly, I may mention that it seems from my statistics, with which I need not trouble you here, as if injury were not only an active agent in the production of these diseases, but also determined a graver form. In my list the cases in which injury was given as a cause were on the whole more serious than those where no cause was assigned, whether we judge by the occurrence of suppuration, the results as regards complete recovery, or the severity of the treatment required for the cure.

One very obvious way in which injury may act in determining the occurrence and localisation of infective diseases is by leading to extravasation of blood, and if bacilli happen to be floating in the blood, to their consequent deposit in the part, in this way breaking down the second line of defence—namely, the endothelium—just as the first line of defence may be broken down. Apart from actual rupture of vessels and extravasation of blood, injury may favour the deposit of bacilli in the part, in that it leads to changes similar to those noticed in the early stage of inflammation. These changes involve, I believe, in the first instance, a diminution in the resisting power of the tissues. I fancy that at the present time such a view of the result of the early stage of inflammation would hardly be assented to, because the leucocytosis which accompanies it is looked on as a most important part of the protective arrangements of the body. I would, however, refer to Lister's early observations on inflammation, especially on the effects of inflammation on the activity of the pigment cells of the frog, to show what a paralysing effect irritation has in the first instance on the functions of the tissue cells of the affected part, and my belief is that the essential resisting power of a part as regards local infection lies in the tissue cells rather than in the adventitious leucocytes which come into it subsequently, and this may explain the greater severity of the disease after injury. I have formerly pointed out that where an extra large number of infective agents enters a part a more severe form of disease always results, and it must be remembered that this question of dosage of infective agents is, of course, relative to the resisting power of the part. Where, therefore, a similar quantity of bacteria has entered two parts, one of which has been rendered less resistant as the result of injury, this dose will act in the latter case in the same way as if a large dose had been administered under ordinary circumstances.

Resisting power is also influenced by a variety of conditions apart from those already mentioned, and these are often spoken of as *predisposing causes of disease.* There seems no reason to doubt that exposure to cold especially affecting a sensitive mucous membrane is a potent factor in permitting the entrance of pathogenic organisms, and very probably has a great deal to do with the penetration of such organisms as the pneumococcus into the body, especially into the lungs. *Bad hygiene, bad food, starvation, alcoholism,* &c., are also important agents in lowering the resisting power of the body to disease, and the same is frequently seen as the result of *other illnesses*, such as influenza, measles, chicken-pox, &c. To take the case of multiple abscesses in the skin in childhood to which we have already referred, we find that they often follow acute and chronic illnesses. Thus, they are frequent during convalescence from infective diseases, such as typhoid fever, pneumonia, influenza, &c., and in the course of measles, scarlet fever, and small-pox abscesses and even gangrene of the skin frequently occur. They are also quite common in tuberculous children. Presumably, therefore, these diseases lower the resistance of the body to the staphylococcus, and yet, curiously enough, taking tuberculosis for example, I find no evidence that the opsonic index to staphylococcus is as a rule seriously lowered in cases of tuberculosis.

In connexion with this question of variation in the resisting power at different ages a very interesting point arises which is worth mentioning here. One would naturally assume that if one individual is more susceptible than another to a disease he would also be affected by that disease in a more severe form, and no doubt this is true in a very considerable number of cases, but there are a number of very remarkable exceptions. In the case of the exanthemata, although I cannot speak with authority, I have seen it stated, and I have been brought up in the belief that if an adult is attacked the disease is more likely to assume a severe type than in the case of a child. And yet we have already assumed that an adult is less susceptible than a child. In the case of pneumococcal invasion of the lungs, although rendered it quite unnecessary to examine the interior of the viscus. Some among the four cases of duodenal ulcer or stenosis I should certainly have missed altogether had not the finger been passed through the pylorus. In one instance nothing abnormal was observed externally, but on introducing the finger an ulcer on the inner surface of the duodenum extending deeply into the pancreas was discovered. In another case an opening was seen with the speculum in the neighbourhood of the pylorus and it looked like the pyloric aperture, but on inserting the finger was found to be a funnel-like ulcer, extending through a rounded adhesion into the liver substance.

---

[1] I would not, however, press the actual percentages which are mentioned in this table, because in some of them, especially in the case of the shoulder, the number of patients was too small to be of value.

STENOSIS OF THE PYLORUS AND DUODENUM.

The symptoms of this condition are so well known that I need not recapitulate them, but will only observe that in some cases of pyloric stenosis in which atony has supervened the vomiting may become frequent, so that the characteristic clinical feature of infrequent copious vomiting is lost. On the other hand, an ulcer in the pyloric antrum, although only involving part of the circumference, may cause symptoms of pyloric stenosis presumably from spasm. My statistics include nine cases operated on for stenosis: six pyloric, two duodenal, and one for perigastric adhesions. There is also one case included among the chronic ulcers which showed gastrectasis and marked pyloric narrowing associated with an open ulcer. In all of these cases posterior gastro-jejunostomy was performed and all recovered. Pyloroplasty was done on one patient with pyloric stenosis in 1900. Recurrence of symptoms began 15 months later and I performed gastro-jejunostomy four years after the first operation. After-results of gastro-jejunostomy for stenosis: only one patient was lost sight of. The seven remaining cases were seen at periods varying from nine months to 63 months, with the exception of one reported after five months. Three were known to have gained from two to two and a half stones in weight. The fat and healthy appearance of these patients was sufficient evidence that the non-passage of chyme through the duodenum does not perceptibly affect nutrition. The site of the stenosis of the duodenum in both cases was in its first part. The symptoms had existed 30 and 12 years respectively, and these were similar to those of pyloric stenosis. One patient was a medical man, aged 38 years. By external examination the pylorus was evidently patulous but the stomach much dilated. An opening was made in a suitable position in the posterior wall of the stomach and a finger passed through the pylorus came upon a diaphragm-like contraction of the duodenum, the surface of which was ulcerated.

The case of perigastric adhesions was unusual. The patient, aged 25 years, had been operated on for suppurating tuberculous glands on the right side of the abdomen and his stomach symptoms developed after that illness. He was much improved by gastro-jejunostomy, but three and a half years later was found to be suffering from mucous colitis. Dr. R. Hutchison informs me that this is not uncommon after gastro-jejunostomy.

A woman, aged 33 years, had swallowed spirits of salts (HCl) four months previously. She was very ill and thin and could not swallow solid food. An œsophageal bougie lodged at the cardiac orifice. She had pain after food and vomiting. A tender dull lump was felt in the epigastrium. The stomach was evidently dilated. I operated in October, 1905, and found a tight stricture in the pyloric antrum. A posterior gastro-jejunostomy was done and a gastrostomy by Witzel's method. She made a good recovery and when I saw her two years and four months later she was well nourished, without pain or vomiting, and the stomach was contracted. She could eat anything but had to bite up her meat carefully, otherwise it lodged in the œsophagus. The gastrostomy opening had closed. Mr. B. G. A. Moynihan has published a similar case.[2]

OPERATIONS FOR ULCER.

Of the 19 cases of ulcer operated on 16 were gastric and three duodenal. *Posterior* gastro-jejunostomy was performed in 17 cases and anterior in two cases. Of the 16 cases of gastric ulcer three of the patients died, these being the only deaths in the series. One died on the fifth day from lobar pneumonia, both lungs being in the condition of grey hepatisation. The subject of one of the earlier cases (1901) died on the fifth day from exhaustion. The pathologist found the gastro-jejunostomy wound healed and there were no peritonitis and no pneumonia. Probably at the present time when feeding by the mouth is commenced earlier this patient would have survived. The third patient, also a case early in the series, died on the fifteenth day owing to ulceration and giving way of the stitches at the right end of the stoma. She was an extremely emaciated woman, aged 22 years, and was found to have an irregular ulcer some three inches in diameter on the posterior wall of the stomach, exposing the pancreas. With regard to the after-histories, all the cases were traced except one, leaving 15. The result was good in eight, fair in one; in one case there was relapse, one patient had bilious vomiting, and one is still in the hospital. Three of the patients died later, one from phthisis; one patient suffering from chronic gastric ulcer was reported to have died from perforation in an infirmary from one to two years after the operation; and the third patient, the subject of duodenal ulcer, died after returning home, 40 days after the operation, from uncontrollable hæmorrhage, to which he succumbed in two or three days. This patient, a man, aged 35 years, was found on introducing the finger through the pylorus to have an ulcer on the inner surface of the duodenum with a ragged base which extended deeply into the pancreas. The anterior operation was performed as the stomach was bound down by posterior adhesions.

Secondary entero-anastomosis was performed twice. One patient, a male, four and a half months after the first operation had some recurrence of pain four hours after food. Bismuth passed freely through the stoma and at the second operation there was no evidence of kinking, &c. The ulcer was situated in the pylorus and first portion of the duodenum and it was thought that the duodenal ulceration had recurred. The symptoms were relieved by entero-anastomosis. A female patient developed bilious vomiting on the tenth day. A secondary operation performed some time later showed recent tuberculous peritonitis with adhesions and thickening above the efferent end of the stoma.

Thirteen of the cases occurred in males and only six in females. These numbers accord closely with the statistics of Dr. Seymour Taylor, who estimates that 72 per cent. of the cases of chronic ulcer occur in men and only 28 per cent. in women. In 89 necropsies the Fenwicks found among 30 acute ulcers, three males and 27 females; among 59 chronic, 43 males and 16 females. The general view of sex incidence is probably expressed by Dreschfeld who places it as three females to one male among clinical cases; and two females to one male among post-mortem cases.[3]

The preponderance of *males* affected bears out an axiom which I have reiterated on many occasions—namely, that a case of recurring attacks of stomach trouble or the existence of inveterate dyspepsia with hæmatemesis or melæna in a man, especially if there be a point of deep tenderness, may almost certainly be diagnosed as chronic ulcer, whereas in women the diagnosis can often only be decided by exploration. Evidence of the truth of the latter part of this assertion will be brought forward in dealing with the cases of hæmorrhagic gastritis.

In the series of ulcers, hæmatemesis or melæna or both were present in 15 out of the 19 cases.

EROSIONS AND HÆMORRHAGIC AND NEURASTHENIC GASTRITIS.

Twelve cases fall under this heading, in all of which the stomach was thoroughly explored, so that there cannot, I think, be any reasonable doubt of the nature of the disease. Ten cases occurred in females and only two in men, thus presenting a striking contrast as regards sex to the group of ulcers. Erosions were only found in three cases. The erosions I have seen during life have always been tiny bleeding points which by no stretch of the imagination could be called an ulcer. There must, however, have been a microscopic denudation of epithelium. Owing to the want of harmony between ante- and post-mortem appearances it becomes a question whether the erosions observed post mortem and described by Dieulafoy are not in great measure due to post-mortem digestion at the sites of embolic hæmorrhages and minute abrasions.

As a sample of the prevailing symptoms among cases coming under the above heading I may cite the following.

A female, aged 28 years, had suffered with indigestion for 12 years, during which she had had six attacks of pain and vomiting after food, and hæmatemesis was of these diseases in the two sexes. It must, however, be pointed out that this matter of alterations in the opsonic index in connexion with age, sex, &c., has not yet been worked out from the point of view taken in this lecture, and we must not, therefore, lay too much stress on our present knowledge on this point. It is a matter which it would be quite worth while looking into. The only investigations actually bearing on this point which I have come across are some described by Dr. J. H. Wells in the May number of the *Practitioner*. He has made observations on the opsonic index in infants under one year old, with the result that he finds marked differences in young babies as compared with older people. He comes to several conclusions, of which I may mention the following. "A low opsonic index is not diagnostic in children under one year old." "In infants a low opsonic index is not inconsistent with health and the child may be thriving well with a declining index." "The antibacterial defence in children cannot depend upon the opsonic content of the serum." These are very important conclusions, and if found to apply to a sufficiently large number of cases they raise the question whether the significance of the opsonic index and opsonins generally is being properly interpreted. Although infective troubles when they do occur in infants are as a rule more acute than in older children, as already instanced in the case of tuberculosis, erysipelas, &c., nevertheless infants do not develop these infections so readily as children do after the first or second year of life—in general terms their defensive power is greater. But if it is a fact that the antibacterial defence in infants does not depend on the opsonic content of the serum, and yet at that period their defensive powers are high, is it right to assume that at a later period of life the antibacterial defence does depend on the opsonic content of the serum? May there not be some other interpretation of the variations in the opsonic index than that which is put forward by Wright and which is being so extensively translated into practice?

---

[2] Brit. Med. Jour., March 23rd, 1907.

[3] Allbutt's Medicine, vol. iii., p. 444.

I must confess that while there is much that is interesting and important in the extensive work which is at present being done on opsonins, it would be more convincing to me if the theories on this matter were less complete and simple and if the writings were tinged with a little philosophic doubt. Unfortunately, when we come to study the results of the application of these theories to practice they do not work out as they ought to. In some cases good apparently does result, while in others it is an open question whether the benefit which follows would not have occurred to an equal extent without the vaccination; in many instances, however, and my experience especially concerns tubercle, one cannot convince oneself that the slightest benefit has resulted—in some, indeed, the condition seems to have become worse. Nor even in the cases where benefit has resulted is it clear that the bacteria have been completely eradicated as one would expect if the theory were correct. I think that all we can say about these matters at present is that they are highly interesting from a scientific point of view and that their continued study is highly desirable, but that it is very doubtful if the opsonin theory is the complete solution of the problem. For my own part, I feel satisfied that something is still wanting, and I believe that the discovery of that something will be more likely to be made in connexion with the study of the local conditions of resisting power than of the general conditions of immunity. The time has certainly not yet come when we can with advantage to our patients beat our knives and stethoscopes into hypodermic needles and syringes, discard all our past experience and knowledge, and transform ourselves into immunisators.

THE annual meeting and banquet of the Brussels Medical Graduates' Association will be held at the Garden Club, Franco-British Exhibition, on Tuesday, July 7th, at 7 for 7 30 P.M. Members are invited to bring ladies. All communications should be made to the honorary secretary, Dr. Arthur Haydon, 23, Henrietta-street, Cavendish-square, London, W.

THE ninth annual general meeting of the National Association for the Prevention of Consumption and other Forms of Tuberculosis will be held on Friday, July 3rd, at 3.30 P.M., at Caxton Hall, Westminster, S.W. (nearly opposite the Army and Navy Stores). Lady Aberdeen, Professor Osler, and Dr. C. Theodore Williams will address the meeting.

A Clinical Lecture

ON

EXPERIENCES OF THE SURGICAL TREATMENT OF NON-MALIGNANT AFFECTIONS OF THE STOMACH.

Delivered at the London Hospital on March 18th, 1908,

BY FREDERIC EVE, F.R.C.S. ENG.,
SURGEON TO THE LONDON HOSPITAL, &C.

GENTLEMEN,—In bringing before you my experience of operations for non-malignant affections of the stomach I cannot claim that the cases are striking in point of number, but a serious attempt has been made to discriminate between the various conditions for which operation has been performed. This has not been done, as far as I know, in most of the published statistics, especially as regards the most important differentiation between definite ulcer and the group of cases included under erosions, hæmorrhagic, anæmic, and neurasthenic gastritis. It will be submitted further on that in many instances these two conditions are indistinguishable by their clinical symptoms. Where medicine fails, therefore, surgery, with its rough but often more precise methods, must step in. The discrimination to which I allude has been effected by a systematic examination of the interior of the stomach in all cases in which the external appearances of the stomach and duodenum have not afforded a precise indication of the nature of the disorder. In chronic ulcer a definite cicatricial thickening, deformity, or adhesions often, but not of necessity, gives unmistakeable evidence of its presence, but in some cases of acute ulcer of considerable size there is no such evidence. In one case of hæmorrhagic gastritis I found a white cicatrix-like patch on the lesser curvature, but on opening the stomach the corresponding area of mucosa was quite healthy. It may be said that operations are not performed, except in the presence of acute hæmorrhage, for such conditions as hæmorrhagic gastritis, &c., but there can be no doubt that such cases are often included under the common heading of gastric ulcer. I advocated the importance of internal examination of the stomach at the discussion on the surgery of the stomach at Nottingham in 1905, and pointed out the difficulties in diagnosis between ulcer and various forms of gastritis, &c.[1] The method of examination of the stomach adopted has been as follows.

After careful inspection and palpation of the surfaces of the stomach, lesser curvature, pylorus, and duodenum, the stomach is brought out, turned upwards, and an opening made in the meso-colon. Two guide sutures are then placed at points corresponding to the angles of the incision in the posterior wall of the stomach which would be required for a posterior gastro-enterostomy. An incision of from two to three inches in length is made; its edges are raised and opened by means of the guide sutures and artery forceps placed in intermediate positions. A long speculum is passed through the opening towards the fundus, any fluid and mucus is removed with sponges on long sponge-holders, and the whole of the interior of the stomach is carefully examined by means of an electric head lamp. If nothing be found the speculum is withdrawn and a finger passed through the pylorus into the duodenum. Should a gastro-enterostomy be decided on, the edges of the incision in the stomach are held in apposition and a straight clamp is placed on the stomach wall about an inch beyond the edge of the incision. The jejunum is clamped, and the operation of gastro-enterostomy completed in the usual way.

That this method has been carried out systematically is shown by the fact that the interior of the stomach was examined with the speculum or speculum and finger in about 60 per cent. of the cases—i.e., in all the cases of erosion and hæmorrhagic gastritis, in ten out of 19 cases of gastric and duodenal ulcer, in four out of nine cases of stenosis of the pylorus and duodenum, and in one case of gastroptosis with a history of hæmatemesis. In the nine cases of ulcer unexplored the external evidence was conclusive, and in the majority of cases of stenosis with narrowing and thickening of the pylorus the gastrectasis and the inability to invert with the finger the wall of the stomach through the pylorus cases of gastroptosis. Further experience has only confirmed the view as to treatment previously expressed.[6] So far I have not met with a case in which the gastrohepatic omentum was sufficiently strong to enable me to apply sutures by Beyea's original method.

---

[1] Brit. Med. Jour., 1905, p. 774.

The following table comprises all my operations for non-malignant disease of the stomach excepting emergency operations for acute hæmorrhage and operation for hour-glass contraction. The number is 51 operations on 46 patients with three deaths (all in cases of chronic ulcer). This mortality appears high at first sight, but the Mayos give a mortality of 6½ per cent. in their first series of 307 cases of gastro-enterostomy for non-malignant disease,[7] while Kronlein's statistics work out at a mortality of 13·5 per cent.[8]

The operations performed by me were as follows: gastro-jejunostomy, 36; pyloroplasty, 1; secondary entero-anastomosis, 4; gastropexy, 4; and exploratory gastrotomy, 6. The three fatal cases all occurred in patients with extensive chronic ulcer upon whom gastro-jejunostomy was performed. Details of these have already been given.

Gastro-jejunostomy and Gastrotomy: 51 Operations in 46 Cases of Non-malignant Disease of the Stomach.

No. of cases.	Indications.		Number in each class.	Immediate result.		Later results.							Methods used.					
				Recovery.	Death.	Good.	Fair.	Relapsed.	Bilious vomiting.	In hospital.	Died later from stomach or other causes.	Lost sight of.	Posterior gastro-jejunostomy.	Anterior gastro-jejunostomy.	Secondary entero-anastomosis.	Gastropexy.	Gastrotomy.	Pyloroplasty.
19	Ulcers ...	Gastric ulcer	16	13	3	6	1	1	1	1	2	1	15	1	2	—	—	—
		Duodenal ulcer ...	3	3	—	2	—	—	—	—	1	—	2	1	—	—	—	—
12	Conditions simulating gastric ulcer	Erosions	3	3	—	1	—	1	—	—	—	1	1	—	—	—	2	—
		Hæmorrhagic and neurasthenic gastritis	9	9	—	1	1	1	2	1	—	3	5	—	2	—	4	—
9	Stenosis ...	Pyloric	6	6	—	5	—	—	—	—	—	1	6	—	—	—	—	1
		Duodenal	2	2	—	2	—	—	—	—	—	—	2	—	—	—	—	—
		Adhesions	1	1	—	—	1	—	—	—	—	—	1	—	—	—	—	—
6	Gastroptosis		6	6	—	2	2	1	—	1	—	—	2	—	—	4	—	—
	Total operations		—	—	—	—	—	—	—	—	—	—	34	2	4	4	6	1

Gastro-jejunostomy.—The anterior operation was only done twice—in one patient because the stomach was so small and drawn up that the posterior operation was impossible and in another on account of extensive posterior adhesions. In the majority of cases the posterior operation was performed with clamps and sutures, the opening being at the lowest part of the stomach and directed downwards and to the right. I have always been very careful to adjust the efferent end of the jejunum with anchoring stitches, so that there was no chance of kinking. The stoma has been large, two and a half inches or more. Further, I have tried to leave the afferent loop only just long enough to prevent acute bending when its direction was reversed.

My later cases have been done by Mayo's *no-loop operation* which constitutes a distinct advantage. His later statistics give 55 cases operated on by this method with only one death. Two patients developed chronic bile regurgitation of a serious character.[9]

The discussion regarding the relative merits of anterior and posterior gastro-jejunostomy has settled itself by the majority of surgeons adopting the posterior. It need not be entered into here.

What course does the food take after gastro-jejunostomy performed with the pylorus patent? Experiments on animals to settle this question are distinctly helpful, but in some respects unsatisfactory. Cannon and Blake,[10] experimenting on cats by means of bismuth and the x ray screen, observed that the food all passed through the pylorus unless the stoma was situated in the *pyloric segment*. A doubt is thrown on the results of these experiments owing to the stoma being so small—namely, in most instances only from two to two and a half centimetres. For in one experiment in which the stoma was three centimetres long the food passed through both it and the pylorus although the gastro-jejunostomy was situated midway between the two ends of the stomach.[11]

Leggett and Maury[12] fed dogs with a piece of meat wrapped round a bullet to which a string was attached. In one experiment the bullet passed through the stoma along the afferent portion of the jejunum and duodenum back into the stomach. In another experiment, when an anastomosis was effected between the stomach and the ileum just above the ileo-cæcal valve, the bullet passed through the pylorus. This was also the course taken by fat, as shown by the condition of the lymphatics. Nevertheless, dogs on which this operation was performed died from inanition in two or three weeks, although they put on flesh for the first week. Delbet's experiments appear conclusively to show that no food passes through the stoma if the pylorus is patent; but he does not state if the stoma was made in the *prepyloric* or the *central* portion of the viscus—a very important omission. It must, however, be remembered that the very muscular stomachs of dogs and cats cannot be safely compared with the human organ, especially when it is dilated and atonic from disease, or its motility impaired by thickenings about an ulcer; and, further, it is evident that the stoma must serve as an accessory opening in cases of spasm due to prepyloric ulcer or to hyper-acidity. Clearly gastric juice does pass through the stoma, or peptic ulcer would not occur on the jejunum in its vicinity.

It is unfortunate that in the human subject the pylorus, being covered by the liver, cannot be seen. In the case of a thin woman who had some vomiting after posterior gastro-jejunostomy (Mayo's method), performed for hæmorrhagic gastritis, we distinctly saw with the screen the bismuth passing from the lower portion of the stomach into the jejunum in the left flank. At the subsequent operation the afferent jejunum was thin-walled and not distended, and there was no obstruction at the efferent end. In a man observed eight months after gastro-jejunostomy for chronic ulcer at the pyloric orifice the bismuth remained in the stomach about two minutes and then passed through the stoma down the jejunum. These patients were examined in the erect position.

Following the indications derived from the experiments of Cannon and Blake, Mayo recommends that the opening be made in the pyloric portion of the stomach. Cannon himself, however, considered Finney's operation to be the ideal method, as the food is intimately mixed with the pancreatic secretions. Dr. H. O. Cameron,[13] who has recently discussed this question from the point of view of the physiologist, suggests that when gastro-jejunostomy is done for present in four attacks. There was superficial tenderness over the epigastrium and over an area covering the left ninth and tenth ribs posteriorly; also a point of maximum tenderness above and to the right of the umbilicus with some resistance. Free HCl, 0·09. At the operation no definite ulcer but a congested patch of mucous membrane was found on the lesser curvature near the cardiac end. The affected area of mucous membrane was excised, the edges drawn together, and the stomach closed without gastro-jejunostomy. Three years afterwards she was quite well and had no return of her trouble.

---

[6] Brit. Med. Jour., vol. i., 1906, p. 784.
[7] Annals of Surgery, vol. xlii., 1905, p. 642.
[8] Langenbeck's Archives, Band lxxix., 1906, p. 656.
[9] Annals of Surgery, April, 1906.
[10] Ibid., vol. xl., 1905, p. 625.
[11] Ibid., vol. xli., p. 626.
[12] Ibid., vol. cvii.
[13] Brit. Med. Jour., Jan. 18th, 1908, p. 142.

A female patient, aged 35 years, had suffered from dyspepsia for 20 years; at the commencement of her illness she had a sharp attack of hæmatemesis which nearly proved fatal. Hæmatemesis also occurred 18 and three years ago respectively. She had pain occurring a quarter of an hour after food and lasting not less than two hours; it sometimes radiated to the back. There was superficial tenderness in front and behind; also a point of deep epigastric tenderness. She had had attacks of vomiting during the last three years coming on about a quarter of an hour after food and relieving the pain. No free HCl in test meal. Exploratory gastrotomy was performed. The stomach was opened and inspected internally and nothing abnormal was found. Previously to the operation the patient had been carefully and for a long period treated medically with unsatisfactory results. The patient is still a chronic invalid.

Digital examination of the interior of the stomach showed that a spastic contraction or spasm of the pylorus existed in three cases.

The first of these patients was a woman, aged 32 years. There was a history of dyspepsia of six months' duration with pain in the epigastrium which became worse after food; distinct epigastric tenderness and vomiting also existed. There had been several attacks of hæmatemesis, once to the amount of a pint. The patient had been fed per rectum for three weeks without improvement. The interior of the stomach was explored with a speculum, but no ulceration of the mucous membrane was found. The pylorus was found to be small and "only admitted the tip of the little finger"; it was tight, rigid, and resistant. There was slight gastroptosis.

The second patient, a female, aged 27 years, had suffered from indigestion as long as she could remember; epigastric pain was experienced immediately after taking food; vomiting occurred usually a quarter of an hour after eating. There was superficial and deep epigastric tenderness. Three distinct and separate attacks of hæmatemesis had occurred commencing first four years ago when the amount discharged was a teacupful. The patient had lost three stones in weight in three years. Medical treatment had been thoroughly tried. The interior of the stomach was examined through an opening in the anterior wall. No ulceration was seen. The mucous membrane was pale and smooth and much dirty brown fluid was present. The pyloric opening barely admitted the tip of the index finger; it felt hard and tense, like a sphincter ani. There was distinct gastroptosis. Total acidity was 0·324.

The third of these patients was a female, aged 27 years, who had had indigestion for two years. There was frequent vomiting which did not relieve pain. There was no history of hæmatemesis or of melæna. The patient had been twice previously in the hospital but medical treatment had given only temporary relief. On passing a finger through an opening made in the stomach wall the pylorus was "found to be tightly closed like a tight sphincter ani." The mucous membrane of the whole of the stomach was examined with a speculum but no sign of ulceration was found.

In two of these cases moderate and in one marked gastroptosis existed. To one accustomed to examine the pylorus with the finger its condition in these cases was unmistakeable. The mucous membrane was quite smooth and there was no cicatricial thickening or external adhesions. The contraction was so firm that one dared not force the finger through for fear of tearing the pylorus. I have on four occasions digitally examined the pylorus in cases of cicatricial stenosis, and do not think it possible to mistake the two conditions. It does not appear likely that the spasm was temporarily due to the irritation produced by the insertion of the finger, otherwise I should have encountered the condition in a larger number of instances. Except in the presence of actual disease, I have found the pylorus quite patulous and easily admitting the passing of a finger into the duodenum. The first of these patients upon whom gastro-jejunostomy was performed subsequently developed vomiting for which a secondary entero-anastomosis was performed. By involuting the anterior wall of the stomach the pylorus was then found to be patulous.

The existence of pyloric spasm in association with hyperchlorhydria has been inferred from the clinical symptoms (Reichmann's disease), but I am not aware that it has previously been actually observed. It probably also exists in cases of ulcer in the pyloric and prepyloric portions of the stomach, although this has been denied.

Practically all the cases placed under the heading of erosions and hæmorrhagic gastritis were referred to me by hospital physicians after medical treatment had failed to relieve the symptoms. The more patients I have operated on the more sceptical I have grown as to finding a definite ulcer in women. The general standpoint regarding the diagnosis of ulcer of the stomach may be gathered from the article by the late Professor Dreschfeld in the last edition of Allbutt and Rolleston's System of Medicine.[4] He writes: "In most cases, however, besides dyspeptic disturbances, there are certain symptoms which may be looked on as characteristic—namely, localised pain in the epigastrium coming on at a variable period after food, vomiting, and hæmatemesis." Further on he writes: "Of the several cardinal manifestations, pain, vomiting, and hyperacidity, the pain with its peculiar features and concomitant hyperæsthesia and muscular hyperalgesia is certainly the most characteristic." Mayo Robson sums up the differential diagnosis as follows: "It may be ordinarily concluded that epigastric pain related to food, vomiting, and localised epigastric tenderness constitute a combination of symptoms pointing to ulcer, but that if hæmatemesis is superadded the existence of ulcer is almost certain." And further on: "If the symptoms do not subside after a few days in bed with care in diet, ulcer is probably present."[5] The experienced authors of these articles were, of course, well aware of the exceptions to these general principles of diagnosis. My series of cases show, however, that the exceptions are exceedingly numerous, that out of 31 cases giving the clinical indications of ulcer in only 19, that is, 63 per cent., was ulceration present

In the light of these facts it is clear that our statistics derived from clinical data as regards the *frequency*, *sex distribution*, and the mortality of ulcer of the stomach require complete revision. In other words, the mortality of actual ulcer is placed much too low. Further, the mortality and after results of operations on cases diagnosed as ulcer must be reconsidered, for unless the interior of the stomach has been examined the true nature of the disease for which the operation was undertaken must in many instances be doubtful.

The majority of the subjects coming under the heading of hæmorrhagic gastritis were females (84 per cent.), usually thin and poorly nourished, who gave a history of stomach trouble for from two to 20 years; in only three patients out of 12 had symptoms existed for under two years. Three had moderate and two distinct gastroptosis. A few were neurasthenic. Superficial and deep tenderness was usually present and hæmatemesis in 84 per cent., the attacks being commonly multiple. In some the amount of free HCl was below the normal.

Results of treatment.—Posterior gastro-jejunostomy was performed in half the cases (i.e., six) and all recovered. The ultimate results were most unsatisfactory and contrasted very unfavourably with the results of operations for ulcer and stenosis. One patient was in perfect health and had gained 12 pounds at the expiration of 20 months; in one the result was fair. Two were cured at first but relapsed to some extent after a year. Two had slight recurrence of vomiting and secondary entero-anastomosis was done, but at the operation no mechanical cause for it was found. In only one case, however, did hæmatemesis recur and then only slightly.

In the remaining six cases gastrotomy only was done. It is interesting to note that one patient continued quite well four years after exploratory gastrotomy performed for hæmatemesis and symptoms of ulcer. A small congested patch of mucous membrane was excised. One patient is a chronic invalid, three were lost sight of, and one is still in hospital.

Gastroptosis.—Time will not permit me to go into my cases of gastroptosis. Further experience has only confirmed the view as to treatment previously expressed.[6] So far I have not met with a case in which the gastrohepatic omentum was sufficiently strong to enable me to apply sutures by Beyea's original method.

---

[4] Vol. iii., p. 463.

[5] Keen's Surgery, last edition, vol. iii., p. 855.

The following table comprises all my operations for non-malignant disease of the stomach excepting emergency operations for acute hæmorrhage and operation for hour-glass contraction. The number is 51 operations on 46 patients with three deaths (all in cases of chronic ulcer). This mortality appears high at first sight, but the Mayos give a mortality of 6½ per cent. in their first series of 307 cases of gastro-enterostomy for non-malignant disease,[7] while Kronlein's statistics work out at a mortality of 13·5 per cent.[8]

The operations performed by me were as follows: gastro-jejunostomy, 36; pyloroplasty, 1; secondary entero-anastomosis, 4; gastropexy, 4; and exploratory gastrotomy, 6. The three fatal cases all occurred in patients with extensive chronic ulcer upon whom gastro-jejunostomy was performed. Details of these have already been given.

being so small—namely, in most instances only from two to two and a half centimetres. For in one experiment in which the stoma was three centimetres long the food passed through both it and the pylorus although the gastro-jejunostomy was situated midway between the two ends of the stomach.[11]

Leggett and Maury[12] fed dogs with a piece of meat wrapped round a bullet to which a string was attached. In one experiment the bullet passed through the stoma along the afferent portion of the jejunum and duodenum back into the stomach. In another experiment, when an anastomosis was effected between the stomach and the ileum just above the ileo-cæcal valve, the bullet passed through the pylorus. This was also the course taken by fat, as shown by the condition of the lymphatics. Nevertheless, dogs on which this operation was performed died from inanition in two or three weeks, although they put on flesh for the first week. Delbet's experiments appear conclusively to show that no food passes through the stoma if the pylorus is patent; but he does not state if the stoma was made in the *prepyloric* or the *central* portion of the viscus—a very important omission. It must, however, be remembered that the very muscular stomachs of dogs and cats cannot be safely compared with the human organ, especially when it is dilated and atonic from disease, or its motility impaired by thickenings about an ulcer; and, further, it is evident that the stoma must serve as an accessory opening in cases of spasm due to prepyloric ulcer or to hyper-acidity. Clearly gastric juice does pass through the stoma, or peptic ulcer would not occur on the jejunum in its vicinity.

Gastro-jejunostomy and Gastrotomy: 51 Operations in 46 Cases of Non-malignant Disease of the Stomach.

No. of cases.	Indications.		Number in each class.	Immediate result.		Later results.							Methods used.					
				Recovery.	Death.	Good.	Fair.	Relapsed.	Bilious vomiting.	In hospital.	Died later from stomach or other causes.	Lost sight of.	Posterior gastro-jejunostomy.	Anterior gastro-jejunostomy.	Secondary entero-anastomosis.	Gastropexy.	Gastrotomy.	Pyloroplasty.
19	Ulcers ...	Gastric ulcer	16	13	3	6	1	1	1	1	2	1	15	1	2	—	—	—
		Duodenal ulcer ...	3	3	—	2	—	—	—	—	1	—	2	1	—	—	—	—
12	Conditions simulating gastric ulcer	Erosions	3	3	—	1	—	1	—	—	—	1	1	—	—	—	2	—
		Hæmorrhagic and neurasthenic gastritis	9	9	—	1	1	1	2	1	—	3	5	—	2	—	4	—
9	Stenosis ...	Pyloric	6	6	—	5	—	—	—	—	—	1	6	—	—	—	—	1
		Duodenal	2	2	—	2	—	—	—	—	—	—	2	—	—	—	—	—
		Adhesions	1	1	—	—	1	—	—	—	—	—	1	—	—	—	—	—
6	Gastroptosis		6	6	—	2	2	1	—	1	—	—	2	—	—	4	—	—
	Total operations		—	—	—	—	—	—	—	—	—	—	34	2	4	4	6	1

Gastro-jejunostomy.—The anterior operation was only done twice—in one patient because the stomach was so small and drawn up that the posterior operation was impossible and in another on account of extensive posterior adhesions. In the majority of cases the posterior operation was performed with clamps and sutures, the opening being at the lowest part of the stomach and directed downwards and to the right. I have always been very careful to adjust the efferent end of the jejunum with anchoring stitches, so that there was no chance of kinking. The stoma has been large, two and a half inches or more. Further, I have tried to leave the afferent loop only just long enough to prevent acute bending when its direction was reversed.

My later cases have been done by Mayo's no-loop operation which constitutes a distinct advantage. His later statistics give 56 cases operated on by this method with only one death. Two patients developed chronic bile regurgitation of a serious character.[9]

The discussion regarding the relative merits of anterior and posterior gastro-jejunostomy has settled itself by the majority of surgeons adopting the posterior. It need not be entered into here.

What course does the food take after gastro-jejunostomy performed with the pylorus patent? Experiments on animals to settle this question are distinctly helpful, but in some respects unsatisfactory. Cannon and Blake,[10] experimenting on cats by means of bismuth and the x ray screen, observed that the food all passed through the pylorus unless the stoma was situated in the *pyloric segment*. A doubt is thrown on the results of these experiments owing to the stoma

It is unfortunate that in the human subject the pylorus, being covered by the liver, cannot be seen. In the case of a thin woman who had some vomiting after posterior gastro-jejunostomy (Mayo's method), performed for hæmorrhagic gastritis, we distinctly saw with the screen the bismuth passing from the lower portion of the stomach into the jejunum in the left flank. At the subsequent operation the afferent jejunum was thin-walled and not distended, and there was no obstruction at the efferent end. In a man observed eight months after gastro-jejunostomy for chronic ulcer at the pyloric orifice the bismuth remained in the stomach about two minutes and then passed through the stoma down the jejunum. These patients were examined in the erect position.

Following the indications derived from the experiments of Cannon and Blake, Mayo recommends that the opening be made in the pyloric portion of the stomach. Cannon himself, however, considered Finney's operation to be the ideal method, as the food is intimately mixed with the pancreatic secretions. Dr. H. O. Cameron,[13] who has recently discussed this question from the point of view of the physiologist, suggests that when *gastro-jejunostomy is* done for present in four attacks. There was superficial tenderness over the epigastrium and over an area covering the left ninth and tenth ribs posteriorly; also a point of maximum tenderness above and to the right of the umbilicus with some resistance. Free HCl, 0·09. At the operation no definite ulcer but a *congested patch of mucous* membrane was found on the lesser curvature near the cardiac end. The affected area of mucous membrane was excised, the edges drawn together, and the stomach closed without gastro-jejunostomy. Three years afterwards she was quite well and had no return of her trouble.

---

[6] Brit. Med. Jour., vol. i., 1906, p. 734.

[7] Annals of Surgery, vol. xliii., 1906, p. 642.

[8] Langenbeck's Archives, Band lxxix., 1906, p. 656.

[9] Annals of Surgery, April, 1906.

[10] Ibid., vol. xl., 1905, p. 696.

[11] Ibid., vol. xli., p. 686.

[12] Ibid., vol. cvii.

[13] Brit. Med. Jour., Jan. 18th, 1908, p. 142.

A female patient, aged 35 years, had suffered from dyspepsia for 20 years; at the commencement of her illness she had a sharp attack of hæmatemesis which nearly proved fatal. Hæmatemesis also occurred 18 and three years ago respectively. She had pain *occurring a quarter of an hour* after food and lasting not less than two hours; it sometimes radiated to the back. There was superficial tenderness in front and behind; also a point of deep epigastric tenderness. She had had attacks of vomiting during the last three years coming on about a quarter of an hour after food and relieving the pain. No free HCl in test meal. Exploratory gastrotomy was performed. The stomach was opened and inspected internally and nothing abnormal was found. Previously to the operation the patient had been carefully and for a long period treated medically with unsatisfactory results. The patient is still a chronic invalid.

Digital examination of the interior of the *stomach* showed that a spastic contraction or spasm of the pylorus existed in three cases.

The first of these patients was a woman, aged 32 years. There was a history of dyspepsia of six months' duration with pain in the *epigastrium which became worse after food*; distinct epigastric tenderness and vomiting also existed. There had been several attacks of hæmatemesis, once to the amount of a pint. The patient had been fed per rectum for three weeks without improvement. The interior of the stomach was explored with a speculum, but no ulceration of the mucous membrane was found. The pylorus was found to be *small* and "*only admitted the tip of the little finger*"; it was tight, rigid, and resistant. There was slight gastroptosis.

The second patient, a female, aged 27 years, had suffered from indigestion as long as she could remember; epigastric pain was experienced immediately *after taking food*; vomiting occurred usually a quarter of an hour after eating. There was superficial and deep epigastric tenderness. Three distinct and separate attacks of hæmatemesis had occurred commencing first four years ago when the amount discharged was a teacupful. The patient had lost three stones in weight in three years. Medical treatment had been thoroughly *tried. The interior of the stomach was examined* through an opening in the anterior wall. No ulceration was seen. The mucous membrane was pale and smooth and much dirty brown fluid was present. The pyloric opening barely admitted the tip of the index finger; it felt hard and tense, like a sphincter ani. There was distinct gastroptosis. Total acidity was 0·324.

The third of *these patients* was a *female*, aged 27 years, who had had indigestion for two years. There was frequent vomiting which did not relieve pain. There was no history of hæmatemesis or of melæna. The patient had been twice previously in the hospital but medical treatment had given *only temporary* relief. On passing a finger through an opening made in the stomach wall the pylorus was "found to be *tightly closed* like a tight sphincter ani." The mucous membrane of the whole of the stomach was examined with a speculum but no sign of *ulceration was found*.

In two of these cases moderate and in one marked gastroptosis existed. To one accustomed to examine the pylorus with the finger its condition in these cases was unmistakeable. The mucous membrane was quite smooth and there was *no* cicatricial thickening or external adhesions. The contraction was so firm that one dared not force the finger through for fear of tearing the pylorus. I have on four occasions digitally examined the pylorus in cases of cicatricial stenosis, and do not think it possible to mistake the two conditions. It does not appear likely that the spasm was temporarily due to the irritation produced by the insertion of the finger, otherwise I should have encountered the condition in a larger number of instances. Except in the presence of actual disease, I have found the pylorus quite patulous and easily admitting the passing of a finger into the duodenum. The first of these patients upon whom gastro-jejunostomy was performed subsequently developed vomiting for which a *secondary entero-anastomosis* was performed. By involuting the anterior wall of the stomach the pylorus was then found to be patulous.

The existence of pyloric spasm in association with hyperchlorhydria has been inferred from the clinical symptoms (Reichmann's disease), but I am not aware that it has previously been actually observed. It probably also exists *in cases of ulcer in the pyloric and prepyloric portions* of the stomach, although this has been denied.

Practically all the cases placed under the heading of erosions and hæmorrhagic gastritis were referred to me by hospital physicians after medical treatment had failed to relieve the symptoms. *The more patients* I have operated on the more sceptical I have grown as to finding a definite ulcer in women. The general standpoint regarding the diagnosis of ulcer of the stomach may be gathered from the article by the late Professor Dreschfeld in the last edition of Allbutt and Rolleston's System of Medicine.[4] He writes: "In most cases, however, besides dyspeptic disturbances, *there are certain symptoms* which may be looked on as characteristic—namely, localised pain in the epigastrium coming on at a variable period after food, vomiting, and hæmatemesis." Further on he writes: "Of the several cardinal manifestations, pain, vomiting, and hyperacidity, the pain with its peculiar features and concomitant hyperæsthesia and muscular hyperalgesia is certainly the most characteristic." Mayo Robson *sums up* the differential diagnosis as follows: "It may be ordinarily concluded that epigastric pain related to food, vomiting, and localised epigastric tenderness constitute a combination of symptoms pointing to ulcer, but that if hæmatemesis is superadded the existence of ulcer is almost certain." And further on: "If the symptoms do not subside after a few days in bed with care in diet, ulcer is probably present."[5] *The experienced* authors of these articles were, of course, well aware of the exceptions to these general principles of diagnosis. My series of *cases* show, however, that the exceptions are exceedingly numerous, that out of 31 cases giving the clinical indications of ulcer in *only* 19, that is, 63 per *cent.*, was ulceration present

In the light of these facts it is clear *that our* statistics derived from clinical data as regards the *frequency*, sex distribution, and the mortality of ulcer of *the stomach* require complete revision. In other words, the mortality of actual ulcer is placed much too low. Further, the mortality and after results of *operations on cases* diagnosed as ulcer must be reconsidered, for unless the interior of the stomach has been examined the true nature of *the disease* for which the operation was undertaken must in many instances be doubtful.

The majority of the subjects coming under the heading of hæmorrhagic gastritis were females (84 per cent.), usually thin and poorly nourished, who gave a history of stomach trouble for from two to 20 years; in only three patients out of 12 had symptoms existed for *under two years*. Three had moderate and two distinct gastroptosis. A few were neurasthenic. Superficial and deep tenderness was usually present and hæmatemesis in 84 per cent., the attacks being commonly multiple. In some the amount of free *HCl* was below the normal.

Results of treatment.—Posterior gastro-jejunostomy was performed in half the cases (*i.e.*, six) and all recovered. The ultimate results were most unsatisfactory and contrasted very unfavourably with the results of operations for ulcer and stenosis. One patient was in perfect health and had gained 12 pounds at the expiration of 20 months; in one *the result* was fair. Two were cured at first but relapsed to some extent after a year. Two had slight recurrence of vomiting and secondary *entero-anastomosis* was done, but at the operation no mechanical cause for it was found. In only one case, however, did hæmatemesis *recur* and then only slightly.

In the remaining six cases *gastrotomy only* was done. It is interesting to note that one patient continued quite well four years after exploratory gastrotomy *performed* for hæmatemesis and symptoms of ulcer. A small congested patch of mucous membrane was excised. *One patient* is a chronic *invalid*, three were lost sight of, and one is still in hospital.

Gastroptosis.—Time will not permit me to go into my

---

[4] Vol. III., p. 463.

[5] Keen's Surgery, last edition, vol. III., p. 855.

TABLE V.—*Incidence of Melitensis Septicæmia upon the Army in Malta, 1901–1907.*

Year.	Average strength.	Notified cases.*	Deaths.	Incidence per 1000.
1901	8135	253	9	31·1
1902	8753	156	6	17·7
1903	8903	404	9	45·4
1904	9120	320	12	35·1
1905	8294	643	16	77·5
1906	6661	163	2	24·5
1907	5729		0	0·15
Totals ...	—	1947	54	—

Total days' sickness, 255,640. Case mortality per cent., 2·77.
* Excluding readmissions.

TABLE VI.—*Incidence of Melitensis Septicæmia upon the Navy, Mediterranean Station, 1901–1907.*

Year.	Average strength.	Notified cases.	Deaths.	Incidence per 1000.	Days' sickness.
1901	14,070	252	3	17·91	10,743
1902	18,470	354	2	19·16	17,029
1903	18,410	339	6	18·41	20,732
1904	19,590	333	8	16·99	17,802
1905	14,360	270	7	18·80	15,644
1906	12,130	145	4	11·95	9,079
1907	—	12	0	—	—
Totals ...	—	1705	30	—	91,029

Total days' sickness, 91,029. Case mortality per cent., 1·76.

Tropical Diseases Committee, under the chairmanship, appropriately enough, of Colonel D. Bruce, C.B., R.A.M.C.

The Mediterranean Fever Commission included on the bacteriological and experimental side Professor Tem. Zammit, Government analyst, Malta, Fleet-Surgeon E. A. Shaw, R.N., Major W. H. Horrocks, R.A.M.C., Major J. G. McNaught, R.A.M.C., Captain J. C. Kennedy, R.A.M.C., and myself; and on the epidemiological side Dr. Ralph W. Johnstone, Local Government Board, Fleet-Surgeon F. H. A. Clayton, R.N., and Lieutenant-Colonel A. M. Davis, R.A.M.C., Major T. C. McCulloch, R.A.M.C., and Major J. C. Weir, R.A.M.C., and the work that was assigned to it was the investigation of the path or paths by which infection was accomplished in man and, as an obvious corollary, the suggestion of preventive measures. Work was commenced in Malta in June, 1904, and the last member of the Commission left the island at the beginning of October, 1905. That a certain measure of success attended its investigations and its consequent *recommendations is*, I think, shown by the figures for the following year—1907—in the two tables dealing with the incidence of the disease upon the navy and army respectively, which are so far below the average for previous years as to strike even the most casual observer as indicating something more important than merely an exceptionally healthy year.

During 1904 and 1905 the work of the Commission consisted entirely of individual investigations and comprised the collection of a vast amount of experimental and epidemiological data bearing upon many points in the etiology of the disease. In 1906, when it was my privilege to direct the work as chairman of a combined "working party," the data already collected were tested, and where necessary amplified, classified, collated, and reduced to order, and the gaps unavoidably left during the previous years filled in. And I am glad to have the opportunity of publicly thanking my colleagues for the loyal and whole-hearted support they accorded me in realising the plan of campaign I had mapped out for the summer months.

Much of the work performed and many of the experiments carried out by the Commission yielded evidence of a purely negative character, and valuable though negative evidence always is in enhancing the importance of positive findings it is unnecessary for me to dwell at any great length upon most of it, and it will simplify matters if I first clear the ground by indicating the negative results of the first 12 months of the Commission's work at Malta, dealing in the first instance with the vehicle of contagion.

Air.

Air from wards containing Melitensis septicæmia patients and air from sewers and latrines was aspirated in large volumes through nutrient media; but culture experiments and inoculations into animals alike failed to demonstrate the presence of the specific micro-organism in such situations. In addition to these experiments patients suffering from Melitensis septicæmia in the acute stages breathed directly through tubes of nutrient broth, but the subsequent examination of the medium thus treated yielded completely negative results so far as concerns the presence of the micrococcus Melitensis in the expired air.

Water.

The microbe of this disease has never been found in drinking water. Large quantities of sea water from the Grand Harbour were filtered through porcelain filter candles and the deposit after thorough washing injected into the monkey, but again no trace of micrococcus Melitensis could be detected.

Dust and Earth.

Again numerous examinations were made of specimens of dust and earth taken from localities liable to pollution with excreta, &c., from cases of Melitensis septicæmia, but none resulted in the successful isolation of micrococcus Melitensis—with the single exception of dust from the Mediterranean Fever Commission laboratory, already referred to. In this connexion it must, however, be recorded that in the first place the micrococcus Melitensis is able to retain its vitality and virulence for considerable periods when mixed with dry dust and soil, and in the second that experiments in which monkeys were exposed in a confined space to artificial storms of heavily contaminated dust or soil, and still others in which infected dust was blown directly into the nostrils of the monkey, proved the possibility of infection by contaminated soil in the laboratory. When, however, the conditions that obtain in nature were more closely imitated and dust which had been contaminated with urine derived from Melitensis septicæmia patients and containing the specific micrococci was used, infection did not occur. Nor is this altogether surprising, for the long-continued action of that highly bactericidal reagent, sunlight, in Malta, to say nothing of the enormous dilution any infected dust must be subject to, renders it extremely unlikely that soil or dust remains infective for more than a very short time.

Direct Contagion.

Transmission of this disease by direct contagion has, as I have previously remarked, been constantly denied by all observers, and even Burnett remarked upon the absence of evidence pointing to this mode of transmission. Hence it is no matter for surprise that the micrococcus Melitensis could never be detected in either the breath or the sweat or in the epidermal scrapings from patients suffering from the fever. Skin contact between healthy and infected animals (monkeys) allowing the ready exchange of ectoparasites, and intimate and close in all respects save that the possibility of contact with urine and excremental matters was carefully eliminated, failed to produce the disease in the healthy monkey, but on the other hand infection frequently took place when pollution occurred of the food or person of the healthy subject by infected excreta.

Again, there is a considerable amount of evidence which militates against the conveyance of the disease by fomites in records of cases where, for instance, the healthy mother has nursed and slept with a sick child throughout the course of an attack of Melitensis septicæmia without the parent becoming infected. Finally, in spite of the vast amount of infective material which exists, as has been shown by Bassett-Smith and others, in naval and military hospitals in England, in the shape of invalided patients suffering from Melitensis septicæmia, no cases of this disease have occurred in the medical or nursing staffs of these hospitals other than those directly due to accidental laboratory infections.

[The lecturer proceeded to adduce strong evidence to prove that the micrococcus could be transmitted by sexual congress. This evidence included the examination of prostitutes, an experiment upon a monkey, and observations upon the goat. He then considered at length the possibility of transmission by mosquitoes, detailed a series of experiments which he had made bearing upon the matter, and criticised the case of a laboratory attendant in which it was supposed to pyloric stenosis the stoma should be placed in the pyloric segment where the pressure is three or four times higher than in the cardia, the food is fluid, and the peristaltic movements of the stomach are most active (Cannon). But that in cases of gastric ulcer the stoma should be placed in the cardiac portion where the pressure is low, in order to facilitate the entrance of alkaline duodenal fluid and its admixture with the stomach contents.

There seems no reason to doubt that one of the chief factors in the curative influence of gastro-jejunostomy in gastric ulcer is the neutralisation of the hyperacid gastric contents by the duodenal fluids. Hence Roux Y-shaped junction, entero-anastomosis with the loop operation, and I may add Finney's and Kocher's operations, are contra-indicated in the treatment of ulcer.

In Finney's operation practically an artificial pylorus is formed, through which there is no likelihood of regurgitation; and in Kocher's operation a spur is constructed with the definite object of preventing the contents of the afferent loop from passing into the stomach. Yet all of these theoretically inadmissible operations have been attended by a great measure of success in the hands of various surgeons; hence there must be some other factors at work beyond the neutralisation of the acid stomach contents.

H. J. Paterson[14] found that after gastro-jejunostomy the acidity of the gastric contents was markedly diminished, usually about 30 to 35 per cent. This is due partly to a diminution of the total chlorides secreted, partly to the partial or complete neutralisation of the free hydrochloric acid by the alkaline bile and pancreatic juice. Owing to a certain amount of gastric juice being squeezed through the stoma, it is probable that there is an earlier stimulation of the pancreatic secretion which would give rise to a compensating earlier fall of the gastric secretion.

Some experiments of Fibich[15] tend to show that the mere draining away of gastric juice is not sufficient to cure a chronic ulcer. He artificially produced chronic ulcers in dogs and then by a narrow tube drained the gastric juice only from the lowest part of the stomach. The ulcers did not heal, whereas they healed readily after gastro-jejunostomy.

Other factors leading to cure are the relief of stasis of food and diminution of tension. The stasis accompanying an ulcer at or near the pylorus may be due, as A. F. Hertz states, to reflex inhibition of the relaxation of the sphincter which normally occurs on the arrival of a peristaltic wave.[16] But I have submitted clinical evidence to show that in some cases of stomach disorder there is a definite spasm of the sphincter; and in one case the spasm had disappeared after a gastro-jejunostomy. There is also evidence that the spasm is produced by hyperacidity and is therefore relieved by gastro-jejunostomy. Further, the diminution of tension after gastro-jejunostomy would favour healing of an ulcer by allowing the margins to be drawn over its surface. This is also seen by the effect of gastro-enterostomy in arresting hæmorrhage.

The immediate healing of an extensive ulcer after gastro-jejunostomy was observed by me in the following case:—

The patient, a man, aged 53 years, was admitted with the usual symptoms of chronic ulcer. I operated on Nov. 3rd, 1905, and found a large thickened mass at the pylorus. In gently manipulating the stomach a small bubble of gas attracted attention to a leakage in a crease of the mass near the pylorus. This spot was sequestered with Lembert sutures as far as the thickened tissues would allow, and an omental graft was applied. Posterior gastro-jejunostomy was then performed. It was quite evident that the ulcer was very deep and on the point of perforating. The wound healed aseptically but a stitch gave at its centre, so that the scar there was very thin. Five weeks after the operation I reopened the wound in order to repair the weak spot and found that the mass at the pylorus had entirely disappeared, its place being marked by a piece of adherent omentum. The patient remains quite well. Brennen describes[17] three cases of gastro-jejunostomy in which laparotomy was again performed at different periods for other affections. The ulcers were found healed.

Fibich produced ulcers in the stomach of dogs which showed no tendency to heal. He first ligatured the artery over a definite area of the stomach, then excised the mucous membrane over it, and finally cauterised the surface with hydrochloric acid. Unless all three methods were employed the ulcers healed spontaneously in a few days. Ulcers so produced, however, healed rapidly after gastro-jejunostomy. But it is unnecessary to adduce experiments in support of facts which are demonstrated daily by clinical experience.

To sum up, the following appears to be the present position regarding the choice of operation for non-malignant affections of the stomach. 1. The operation of choice for ulcer is posterior gastro-jejunostomy without a loop. 2. Any form of entero-anastomosis should be avoided in ulcer as it tends to diminish the flow of duodenal contents into the stomach; and it appears to increase the risk of peptic ulcer. 3. Finney's operation is attended with a higher mortality than gastro-jejunostomy, is more difficult, and is contra-indicated in ulcer because the duodenal contents would not pass into the stomach. In stenosis, gastro-jejunostomy gives better drainage and the results are admirable. 4. Pyloroplasty is inefficient in stenosis because the contraction frequently recurs. 5. Excision of a chronic ulcer is rarely feasible and is attended by a high mortality. I should not perform it because my experience tells me that ulcers heal after gastro-jejunostomy, although not placed in the pyloric or prepyloric regions. In five cases of ulcer situated in other parts of the stomach the results of gastro-enterostomy were absolutely good in four, and one weakly man was relieved of pain and indigestion but vomited on rare occasions. The patients were seen at intervals varying from 13 to 36 months after the operation.

In conclusion, I wish cordially to thank my medical colleagues for most of the cases and especially Dr. Bertrand Dawson, who was one of my corresponding physicians at the hospital for several years.

The Milroy Lectures

ON

MELITENSIS SEPTICÆMIA

(MALTA OR MEDITERRANEAN FEVER).

Delivered before the Royal College of Physicians of London on March 5th, 10th, and 12th, 1908,

BY J. W. H. EYRE, M.D., M.S. DURH.,
D.P.H. CANTAB.,

BACTERIOLOGIST TO GUY'S HOSPITAL, AND LECTURER ON BACTERIOLOGY AT GUY'S HOSPITAL MEDICAL SCHOOL; MEMBER OF THE ADVISORY BOARD OF THE MEDITERRANEAN FEVER COMMISSION.

LECTURE III.[1]

Delivered on March 12th.

CHANNELS OF INFECTION.

MR. PRESIDENT AND GENTLEMEN,—I have already remarked upon the dearth of experimental investigation by workers within endemic areas into the questions of the propagation of the fever and the transmission of the micrococcus Melitensis —investigations that one would naturally suppose would have been stimulated by the exact researches of Bruce, but the fact remains that while clinical study of Melitensis septicæmia was prosecuted practically as a routine matter by numerous early naval and military surgeons and the discovery of its specific cause was due to the energy of one isolated and indefatigable research worker nearly 20 years ago, the investigation of the mode of infection required the stimulus imparted by the appointment of a Commission to insure its success.

The following tables, which are amplified in some particulars from the combined table already given, show the wastage in the two services during the past few years of the present century. The tables afford an obvious explanation of the step taken by the then Colonial Secretary, Mr. Lyttelton, in the early part of 1904 in promoting the formation of the Mediterranean Fever Commission after urging joint action by the Admiralty, the War Office, and the Civil Government of Malta. The Royal Society having been approached, consented to appoint an advisory board to supervise the work of the Commission, and did so by nominating a sub-committee of its which abounds in the goat stalls—was on my suggestion tested by experiments carried out by Kennedy on the same lines as the mosquito experiments before detailed but with completely negative results.

---

[14] THE LANCET, Sept. 21st, 1907, p. 815.

[15] Langenbeck's Archives, Band lxxix., 1906.

[16] Brit. Med. Jour., Jan. 18th, p. 136.

[17] Archiv für Klinische Chirurgie, Band lxxviii., Heft 3.

[1] Lectures I. and II. were published in THE LANCET of June 13th (p. 1677) and 20th (p. 1747), 1908.

Where the milk has been systematically examined in animals that have been experimentally infected the appearance of the coccus in the milk has invariably been a late phenomenon. Goat No. 4, for example, commenced to eliminate the coccus seven weeks after infection; Goat No. 8, three months Goat No. 7, on the other hand, was infected in September, 1904, and, although repeatedly examined, showed no signs of the coccus in the milk up to January, 1906, when, being "dry," she was impregnated. In July, 1906, she dropped two kids and three days later the coccus appeared in the milk and was consistently present up to Sept. 24th, when she was slaughtered, and it is interesting to note that in this case the coccus could not be recovered post-mortem from the spleen, the kidneys, or the lymphatic glands.

THE TRANSMISSION OF MICROCOCCUS MELITENSIS ANTI-BODIES TO THE DESCENDANTS OF INFECTED GOATS.

A further interesting point, and one which has a considerable bearing upon practical preventive measures against the spread of micrococcus Melitensis infection in the goat, is the fact that while an appreciable amount of specific agglutinin is usually transferred from the infected milch goat to its offspring the micrococcus Melitensis itself, minute though it is, does not appear to cross the placenta. Assuming that goat's milk is the infective agent chiefly responsible for the cases of Melitensis septicæmia in man, how do the observed etiological facts accord with this theory?

GEOGRAPHICAL DISTRIBUTION.

It is the fashion for the moment to regard the Maltese goat as the sole carrier, but this assumption is to my mind not altogether warranted. Shaw, in stating that Melitensis septicæmia only occurred in localities in direct sea communication with Malta, implied, if he did not actually state, that the disease was the consequence of the importation of Maltese goats, for these animals, on account of their enormous milking capacity, are in great demand. Still we know quite well that Melitensis septicæmia does exist as an endemic disease in areas where the local milk-producing goat is not of the Maltese breed. No evidence can be obtained from the Customs or Agricultural Department of either India or South Africa that Maltese goats have been imported, yet we know that Melitensis septicæmia in man undoubtedly occurs in India, and Lamb, Forster, and Brayne have isolated the specific coccus from the milk of the common Indian goat, which, although descended from the same parent stock, in no way resembles the Maltese goat. Again, in South Africa, Birt, Statham, and Robertson have similarly isolated the coccus from the milk of the boer brokken, which I am informed by McNaught is nothing like the Maltese goat, which by itself forms into a distinct species.

And now certain general statements acquire a peculiar significance. The Maltese often suggest that the appearance of Crimean veterans in Malta coincided with the appearance or increased prevalence of Melitensis septicæmia. This may well be so. Davy records that the total number of goats, male, female, and kids, amounted to about 3000 in 1833–1844, and probably the advent of large numbers of veterans in the "fifties" marks the date when the increased demand for milk was met by an increase in the number of milch goats, for to-day there are more than 17,000 milch goats alone on the island. Again, Dr. P. D Strachan tells me that in South Africa the rich farmers keep cows but the poorer classes use goat's milk, and the vast majority of his cases of Melitensis septicæmia have occurred amongst the latter class. Still, immediately after the Boer war many who previously used cow's milk were forced to take goat's milk, and the disease was certainly more prevalent then, whereas now that the country is again being stocked with cows the disease is becoming less frequent.

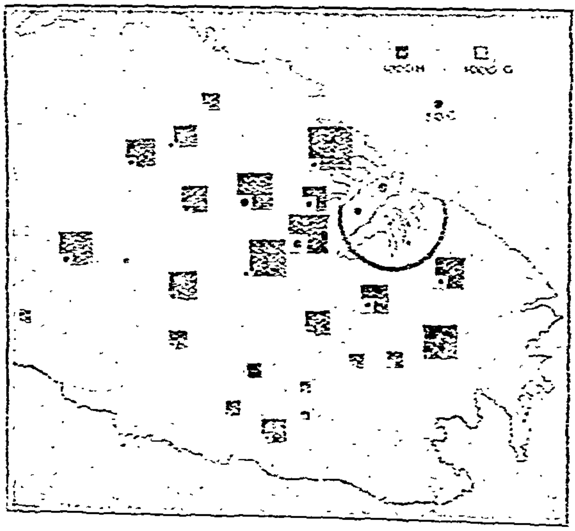
SEASONAL PREVALENCE.

We have already seen that so far as concerns Malta the incidence curve commences to rise in the early part of the summer, reaches a maximum in the hot dry months of July, August, and September, and again falls in the winter time. Now in Malta the goat is usually impregnated in October, November, or December, the gestation period is about nine weeks, the kids are dropped in January, February, or March, and are suckled for three or four weeks. After this time the goat's milk becomes available for consumption. Hence in the height of the summer there is a large quantity of goat's milk available at that period of the year when the largest amount of liquid refreshment is demanded. Now an interesting point which I observed was that a milch goat whose serum gave such a pronounced reaction as to make it absolutely certain that infection with micrococcus Melitensis had taken place failed to excrete the coccus in its milk, which by the way was drying up. This animal was impregnated and on dropping its kid again yielded large quantities of milk, and now the micrococcus appeared in the milk in large numbers and was isolated therefrom with the greatest ease. This observation has since been repeatedly observed, thus suggesting that the milk of infected animals is most dangerous during the period following the birth of the kid—in other words, at the beginning of the summer. This being so we should expect the incidence curve to be at its height during the next two or three months—and we are not disappointed. At the same time it must be noted that the Maltese goat remains in milk for a very long period—often one or two years and sometimes even as long as three years, and this means that a supply of infective material is always to hand and that cases should occur throughout the entire year. We have already seen that this is so.

GENERAL SANITARY CONDITIONS.

Still proceeding in our assumption that goat's milk is the vehicle of contagion, general sanitary conditions should not have much influence on the case incidence. Valetta, sewered, paved, and scavenged, and supplied with excellent water, has a case incidence double the size of that of Mellieha, a rural hamlet innocent of sanitation in the general acceptation of the term. Considering only the area actually built over, the density of population in Mellieha runs to 147,000 individuals per square mile, as compared with 132,000 per square mile in Valetta. When, however, we commence to measure the sanitary condition of a locality in accordance with the amount of infective material—goat's milk—that is available a different aspect is at once presented, as is graphically represented in the sketch-map above (Fig. 4), where the respective sizes of the black and white squares represent the human and goat population ratios in various towns and villages and the size of the black circles and dots represents the ratio of incidence of Melitensis septicæmia in these areas. An excellent illustration of this point is afforded by two neighbouring villages in the suburban area close to the chief town of the island. Hamrun, with a human population of some 12,000, has an average annual incidence of 4·0 per 1000. The goat population numbers 2500 head,

FIG. 4.



Plan of Malta, showing the relative human and goat populations and the incidence of septicæmia Melitensis in the chief centres of population 1000 H = 1000 humans. 1000 G = 1000 goats. 50 C = 50 cases of septicæmia Melitensis. The sizes of the squares and circles are proportional.

have occurred. He stated that the possibility of the mosquito acting as a *carrier* of the micrococcus was completely proved and offered the following suggestion as a possible though exceedingly rare means of infection by this agency :—]

A mosquito, having fed on a case of Melitensis septicæmia in the acute septicæmic stage whose blood contained large numbers of the cocci, settles 48 hours later upon a healthy individual and proceeds to insert its proboscis into the skin. The mosquito before feeding massages its abdomen with its hindermost pair of legs and extrudes a mass of bloody excrement, inclosing the coccus in a virulent condition, upon the skin surface only a few millimetres distant from the puncture made by its proboscis. The bitten individual, when alive to the fact that a mosquito is feeding upon him, rouses, frightens off the mosquito or kills it *in situ*, and then probably proceeds to scratch thoroughly the infective excrement into the site of the minute wound and, following a successful inoculation, an attack of Melitensis septicæmia ensues. Such a sequence of events is well within the range of possibility, and yet the necessary combination of factors is sufficiently uncommon to render this method of infection as rare as the experiments upon monkeys would indicate.

Food.

Zammit, who had approached the subject of Melitensis infection in a purely scientific spirit on his appointment to the Commission, had already attempted the infection of the most important animal in the Maltese domestic economy—viz., the goat—not only by the usual methods but, more important still, by feeding experiments carried out upon selected healthy animals. No constitutional effects were produced, but one month after administration of the growth from one agar tube culture of micrococcus Melitensis mixed with the food specific agglutinins were detected in the blood serum and steadily increased in amount as time went on. This experiment was repeated with similar results, and as months afterwards the serum reaction was found to be still present, although somewhat diminished in amount, a systematic examination of the blood, the urine, and the milk was entered upon and Zammit was able to show that the specific micro-organism could be isolated from each and all of these fluids. Next, a batch of six presumably healthy goats was purchased as a preliminary to further experiments, but it was found that specific agglutinins were present in the serum from five of the animals, while the specific coccus was present in the blood of two of them, in the urine of two, and in the milk of four. In the meantime Zammit, at the suggestion of Carruana Scicluna, the head of the Public Health Department of Malta, instituted an inquiry into the natural infection of the goat by bacteriological examination of the spleen of all goats slaughtered in the public abattoir and the testing of the blood for specific agglutinins. 46 goats were thus examined and the micrococcus isolated from the spleen of one, while specimens of serum from seven yielded a positive agglutination reaction in dilutions of at least 1 in 80, thus showing that naturally infected goats were fairly common. In view of these facts the Commission thereupon engaged in an extended series of observations as to the evidences of infection in the Maltese goat, and as a result of their inquiries applied in round numbers to 2000 animals—one-tenth of the goat population of the island—found that 40 per cent. yielded positive agglutination reaction pointing to present or past infection, and that 10 per cent. secreted milk containing the micrococcus Melitensis.

Another important piece of work carried out by Zammit as the result of his observation that specific agglutinins were present in the goat's milk as well as in its serum was the modification of the sedimentation test to render it immediately applicable to the testing of suspected milks, for it was subsequently found that the specific coccus was never found in the milk from which appreciable amounts of agglutinin were absent. The importance of the goat as carrier of micrococcus Melitensis and of its milk as an infective food at once necessitated the careful study not only of the course of the infection in the goat when naturally acquired but also of many points in its natural history, habits, and general economy.

This wide distribution of goat "carriers" leads one to inquire what is known as to the origin of the goat. Both naturalists and palæontologists agree that the early ancestor from which the domestic goat has descended is the Persian wild goat (capra ægagrus)—the pasang ("rockfooted") of the Persians—and that the many varieties now existing in Europe and elsewhere have been evolved by the action of environment and natural selection through many ages, aided by crossing with local allied species either naturally or by human design. The present-day range of the original Persian goat is extensive—from the western side of Sind and Afghanistan through Baluchistan and Persia to the hills of Asia Minor, particularly the Taurus range, but though even up to classic times it was widely distributed throughout the Grecian Archipelago it is now limited so far as Europe is concerned to the island of Crete. There is not the least doubt that this wild goat of the East was early domesticated and accompanied prehistoric man in his western migrations through Palestine, the peninsula of Sinai, and Northern Africa on the one hand, and through the Grecian and Italian peninsulas and Southern Europe, westwards and northwards on the other, for we find ample evidence that the Swiss lake-dwellers of the stone age possessed goats in greater abundance than sheep. Simultaneously with this westward migration the goat was taken southwards down the east coast of Africa until it reached the portion of Southern Africa subsequently occupied by European races.

Now I am decidedly inclined to the opinion that Melitensis septicæmia is primarily a disease of the goat, which had its origin in the Persian hills, and which accompanied that goat on its world-wide wanderings, and which has remained potentially active for man so long as its host preserved its original habits in barren rocky countries in the tropics and subtropics where pasturage is of the scantiest and consists chiefly of shrubs and weeds. When, however, the goat reaches those temperate climes and abundant pasturage which are so pre-eminently suitable to the cultivation of the cow that its lactiferous capabilities fail to rival those of the last-named animal, and selective inbreeding is in consequence neglected, the micrococcus no longer finds a suitable habitat in the caprine mammary glands and rapidly disappears.

The transmission of the disease from goat to goat may obviously take place along any one or more of several channels, for I have already pointed out that this animal is susceptible to infection by the micrococcus Melitensis in the laboratory by cutaneous, subcutaneous, intraperitoneal or intravenous inoculation, or by feeding.

Cutaneous or subcutaneous inoculation is probably responsible for a large number of infections, the contagion being carried from goat to goat by way of the goatherd's hands when soiled with infective milk, more especially as laboratory experiments show that a comparatively small number of cocci are sufficient to produce infection.

The technique adopted by the Maltese milker closely resembles that of his English *confrère*, and consists in lubricating his own hands and the outside of the udder with some of the foremilk. When a number of goats have to be milked in rapid succession the lubricant obtained from the first goat will serve for perhaps some half-a-dozen goats; with the seventh goat a fresh supply of milk is taken for the same purpose, and so on. Now, given that Goat No. 1 or Goat No. 7 is passing micrococcus Melitensis in its milk, it is obvious that at any rate Goat No. 2 or Goat No. 8, as the case may be, stands a very good chance of becoming infected by a process of subcutaneous inoculation.

[The lecturer proceeded to describe an experiment in which he had shaved somewhat roughly an area of skin over the mammary gland of a healthy kid, and then rubbed in two cubic centimetres of infected milk containing some 5600 micrococci. On the fifteenth day blood drawn from the goat's ear contained agglutinins, and three weeks after inoculation the goat was killed and a careful post-mortem examination was carried out, with the result that the specific organism was recovered from the spleen and inguinal glands. He proceeded :—]

The successful result attending this cutaneous method of inoculation—a method closely resembling that employed in Jennerian vaccination—renders it extremely probable that convection by the flies, which positively swarm in the goat-pens, may play a part in the transmission of the infection from goat to goat. In this connexion it must be remarked that the udder of the Maltese goat is extremely large and pendulous; many an animal is compelled to walk very warily to avoid treading on its own udder, and superficial abrasions are frequently present on the udder where it has been dragged along the ground in walking.

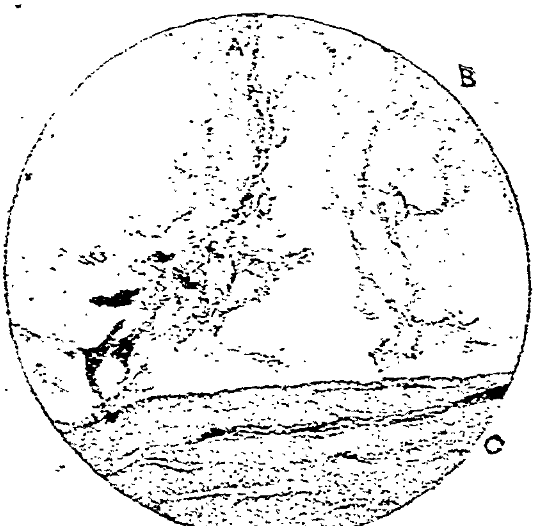
The possibility of the transmission of the coccus by means of blood-sucking flies, other than by mechanical conveyance upon body or limbs—for example, by Stomoxys calcitrans crystals; numbers of such groups of tyrosin crystals are seen *in the blood-vessels, in the smaller and larger septa* dividing and subdividing the muscular bundles, as also in the scant connective tissue between small groups of muscular fibres. The muscular fibres themselves appear without the normal transverse striation, are swollen, some are breaking down into particles of fibrilli and into granular matter, and contain numerous empty spaces—gas bubbles. The presence *of the tyrosin crystals and the structural alterations* just described clearly indicate putrid decomposition of the proteid constituent of muscle. Tested with litmus the reaction of the tainted muscle is distinctly alkaline.

On dissecting and comparing different hams, some less, some more tainted, it becomes manifest that in all cases the decomposition is most pronounced at and around the knee. In the distinctly miscured ham the condyles of the femur, the patella, the condyles of the tibia, the crucial ligaments, the semilunar fibro-cartilage, and the parts adjoining the capsule (connective tissue, tendon, and muscle) are quite green and the smell of putrid decomposition extremely pronounced. In the less miscured hams the discolouration is here less pronounced; it does not amount to green, but it is nevertheless distinct and the smell is pronounced.

From the dissection and comparison of the different hams which I had the opportunity of examining I have no hesitation in affirming that the taint starts about the knee and gradually progresses from here towards the femoral and gluteal regions.

2. *The cause of the taint.*—The essential cause in all tainted hams examined was one and the same species of cylindrical microbes, and one species only, of which the morphological and biological characters will be presently described. In conformity with what has been said, this microbe is found in great numbers in the tainted parts, the more pronounced the taint the more copiously present is the microbe; in discoloured (grey-green) swollen muscular fibres the microbe is present in almost continuous lines between and parallel to the fibres, here and there in smaller or larger clusters; it is present in the intermuscular connective and fat tissues in very great numbers and from these tissues it invades the muscular tissue itself (*Fig. 1*). In less tainted—i.e., less discoloured—parts the microbe becomes less numerous and in slightly miscured parts its numbers fade away; in fact, there can be little doubt that the number of these microbes determines the intensity of the taint. In and about the knee, on the other hand, whether the taint is pronounced in the whole ham or whether it is only pronounced about the knee, all the parts constituting this latter—condyles, patella, ligaments, semilunar cartilage, capsule, and the loose connective tissue and tendinous tissue around—are covered with almost continuous masses of the microbe. The free surfaces of all parts within the articulation are covered with a slimy moist film which when transferred to a glass and looked at under the microscope is composed of a continuous mass of the microbe. This, of course, is quite in conformity with what is said above about the knee being the starting and principal point of the taint, for in this part the microbe has evidently had opportunity to multiply to an enormous extent and gradually, by its continued growth and lengthening and multiplication, to pervade farther and farther into the ham. In addition to this distribution of the microbe there is this other fact—viz. (as we shall presently see), the microbe we are dealing with is capable of causing by its activity in albuminous soil the same malodorous decomposition (putrefaction) as occurs in the miscured ham. We have, then, sufficient reason for maintaining that the microbe, by its growth, multiplication, and chemical activity, is the real cause of the changes that characterise the taint or decomposition of the ham.

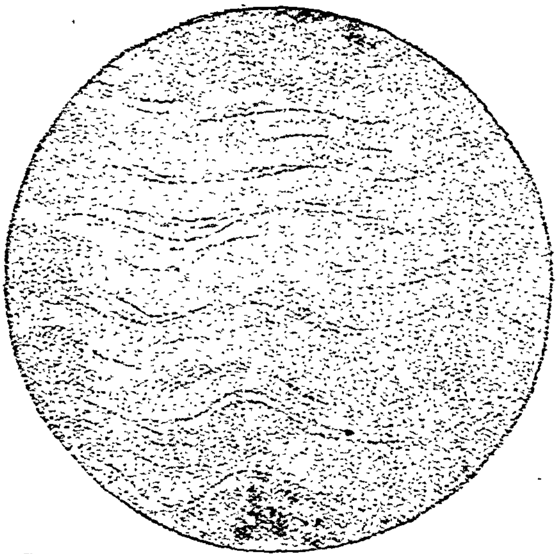
FIG. 1.



Miscured ham. Muscular tissue invasion. A, Large septum containing masses of the bacilli (black). B, Fat tissue. C, Muscular fibres between which are continuous streaks of the bacilli (black). × 125.

3. *Morphological and biological characters of the microbe.*—As has already been mentioned, the microbe is present in the tainted parts as cylindrical rods; in the intermuscular tissue, loose connective and fat tissues, and in the tendons numerous chains and filaments of these rods occur (Fig. 2); in the slimy film covering the inner surfaces of all parts of the articulation the microbe is present as short or long cylindrical rods and as filaments of considerable length. Some of these filaments are merely linear series of cylindrical rods, others show a subdivision or segmentation only here and there, so that the greater part of the filament appears uniform and unsegmented. In the accompanying Fig. 3 the size and appearance of the microbe in stained preparations are well shown. When measured in a specimen like that shown in Fig. 3 the length of the microbe on the average is 3–5μ, the shortest 1·6μ, *but some* are longer, 12–14μ long; some are considerably longer and, as shown in Fig. 2, some filaments are even many times longer than that; the microbe is 0·4μ in thickness and is straight or curved; the ends, which in most individuals are more or less rounded, seem in the filaments where the rods are arranged as short or long chains almost straight cut.

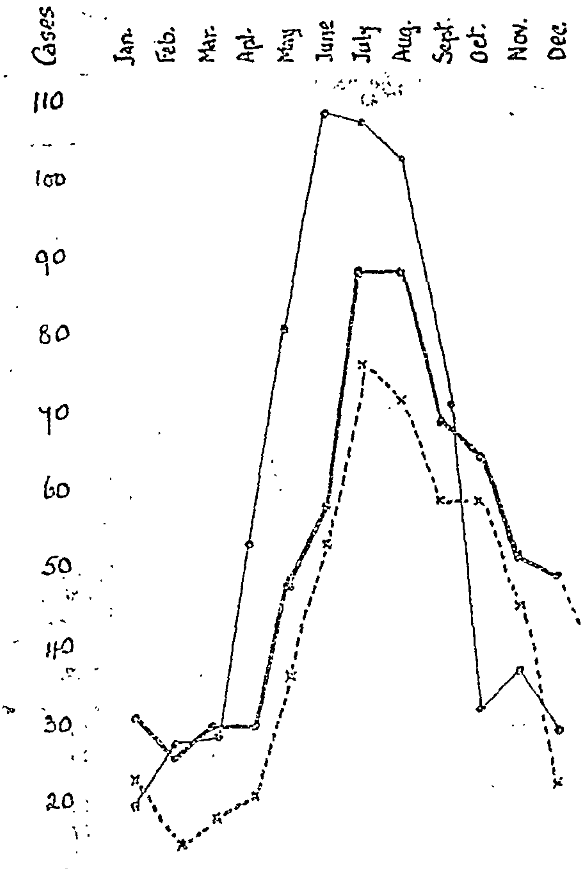
FIG. 2.



Tendinous tissue around knee. Miscured ham. Between the tendon bundles are the bacillary filaments. × 500.

The microbe is not possessed of motility—that is to say, its progressive *growth from* a given point is not helped by any locomotion, as is the case with some other microbes capable of causing decomposition. These latter by their locomotion can rapidly invade fresh fields and pastures new where they again multiply rapidly and whence they send out further hosts. The microbe we are dealing with, not possessing locomotion, must rely for its progress on its gradual multiplication; in this invasion its power of sanitary authorities into conflict with the usually uneducated and often violently prejudiced native of the agricultural class, and it is uncertain how far recommendations under this head will, from the diplomatic point of view, commend themselves to the civil authorities. In the event of such measures being adopted, the ordinance upon which they are based will need to be administered with great firmness and tact.

FIG. 5.



Incidence of septicæmia Melitensis amongst the civil population of Malta. Thick line = average for 1896–1905. Thin continuous line = cases for 1906. Thin dotted line = cases for 1907.

In the first place, it is essential that all the goats in the island should be registered and some method should be employed of numbering by means of stamped metal discs (such as is already carried out in the case of dogs), which will afford a ready means of identification of individual animals. Next, repeated analyses of samples of milk, taken at regular intervals, must be made in respect to every milch goat by medical officers of health (who need not be bacteriological experts) specially detailed for this purpose, at three, four, or more district "centres" where laboratories for the application of the Zammit milk test must be provided. Further, samples of the milk from each animal, giving a positive reaction with this test, must then be sent to the central laboratory in the Public Health Department at Valetta for bacteriological examination for the demonstration of the presence of micrococcus Melitensis. So far the suggested measures are simple in theory and by no means costly in practice; nevertheless, unless carefully handled, the Maltese goatherd will offer considerable opposition to their execution.

Next, such infected animals as are found from time to time to be yielding milk containing the specific micro-organism of Melitensis septicæmia must be segregated. This measure will necessarily be more expensive in operation, though, considering the importance of the issue at stake, not unduly so.

The total number of goats to be dealt with amounts approximately to 20,000, of which probably at least 2000 are infective, so that provision should be made on a liberal basis for dealing with a possible 5000 animals during the first year's work. When an animal is definitely shown to be yielding infective milk it should be at once seized by the sanitary authorities and transferred to the lazaretto, or some other "pound" to be subsequently established, the owner being compensated on a scale comparable to that employed in Great Britain when infective animals (e.g., in pleuro-pneumonia, tuberculosis, &c.) are seized by the public health authorities, and the milk-stall from which it has been removed should be disinfected and lime-washed at the expense of the civil authorities. As, however, the flesh of infected goats, &c., is harmless when cooked, considerably more than half of the animals thus seized could be slaughtered, the viscera destroyed, and the flesh sold for consumption—a proceeding which would materially lighten the cost of these preventive measures. Moreover, as the progeny of infected milch goats is itself uninfected at birth, the seizure and destruction of infected animals should be combined in the case of the more valuable animals—the specially good milkers, &c., with a modification of the "Bang process" for the reproduction of tuberculous herds, under the direct control of the Public Health Department, at special breeding farms where the selective in-breeding, which has rendered the Maltese milch goat such a valuable animal, could be continued under skilled supervision. This process, devised by Professor Bang of the Copenhagen Veterinary College, as applied to tuberculous herds, has already been carried out with marked success in Denmark, Hungary, and the United States of America, and it appears probable that in dealing with the micrococcus Melitensis infection in goats the whole of the infective animals thus seized would be replaced by healthy animals in the course of three or four years. Here, again, by the sale of yearlings a considerable return might be effected. While the capital sum required to organise and carry out all these measures in an efficient manner is greater than the civil authorities in Malta could readily devote to the purpose, enormous economies would be effected by the disappearance of Melitensis septicæmia from the Maltese islands, which would amply justify an appeal to the Imperial exchequer—assuming, of course, that Malta retains its present importance as a base for our sea and land forces.

Although certain powers are already available under existing ordinances it would probably be preferable to introduce a new ordinance for the express purpose of stamping out Melitensis septicæmia from the goats of the Maltese islands, and I am confident that this much-to-be-desired end might readily be attained if the Imperial Government could but be induced to regard assistance in the matter as its obvious duty to its Maltese dependencies.

ON THE NATURE AND CAUSES OF TAINT IN MISCURED HAMS (BACILLUS FŒDANS).

BY E. KLEIN, M.D., F.R.S.,
LECTURER ON ADVANCED BACTERIOLOGY AT ST. BARTHOLOMEW'S HOSPITAL MEDICAL SCHOOL.

I WAS requested by Mr. Alfred Marsh of Brierley Hill, Staffordshire, to investigate and to report upon the cause of taint which occasionally affects hams during the curing process. The results of this investigation in their essential points are described in the following. For permission to make this publication I have to offer my best thanks to Mr. Marsh. In Mr. Marsh's factory the hams undergo the "dry curing" only—i.e., they are treated with dry salt and saltpetre, which are applied repeatedly on the outer surface of the ham, no other method of salting, injection, or pickling in fluid being used.

1. *Character, appearance, and distribution of the taint in the ham.*—The miscured ham denotes its character by its distinctly putrid smell. Taking a ham that is markedly tainted and examining the muscular tissues, it will be seen that the muscles are more or less discoloured; in slightly tainted portions the characteristic red tint of well-cured muscle is changed to a pale or dirty grey tint, while in the strongly tainted parts the colour varies between a dirty grey and dirty green. In the latter parts the muscular tissue is swollen and soft, more like a jelly. Making a section through the tainted muscle and examining it under the microscope, the first change that attracts our attention is the presence of small linear clumps of crystals—tyrosin

A NOTE ON THE EARLY TREATMENT OF PROTRUDING INCISOR.

By J. F. COLYER, M.R.C.S., L.D.S.R.C.S. ENG.,
DENTAL SURGEON AND LECTURER ON DENTAL SURGERY TO CHARING CROSS HOSPITAL; SURGEON AND DEAN TO THE ROYAL DENTAL HOSPITAL, LONDON.

PROTRUSION of the upper incisor teeth is a deformity only too often seen amongst the children of the present day, and it is one on which dental practitioners are by no means in agreement as to the best method of treatment. In a few cases the protrusion of the teeth is the direct result of the use of the baby comforter, of lip sucking, or a somewhat similar habit; in the majority of instances, however, the protrusion is accompanied by an abnormal growth of the jaws and dental arches. It is to this latter class I propose to refer.

Now, although there is a certain amount of obscurity about the etiology and pathology of these cases, there are, however, certain facts generally accepted, and to these brief allusion will be made, as they have an important bearing on the question of treatment. In the first place, attention must be drawn towards a well-recognised fact—namely, that the teeth themselves are formed during the first three years of life, and are arranged, one might say, in a crowded manner in the substance of the bone. If the teeth could be taken and fixed in the mouth the arch of the jaws would be found quite inadequate for the correct arrangement of the teeth. If orderly development of the jaws takes place then by the time the teeth erupt there is room for their proper and correct arrangement. This orderly development is under modern conditions interfered with, mainly by lack of function of the jaws, with the result that there is an interference with the growth of the body of the jaw. What is the result? A struggle takes place on the part of the teeth for room in the jaw, and *either* the incisors and canines together, at times the premolars, are crowded into irregular positions, or the anterior teeth are pushed forwards, causing superior protrusion. Why in the one case simple crowding results and in the other superior protrusion is not clear.

This lack of development would seem to affect the maxilla and mandible unequally. Clinical evidence shows that the maxilla suffers more frequently and more severely than the mandible, and for this reason the growth of the mandible is influenced by the function of mastication, whereas that of the maxilla is in addition considerably influenced by the proper performance of the nasal function—in other words, in nasal obstruction the antrum and premaxilla *do not* develop properly, and this interferes in a marked manner with the proper growth of the maxillæ. In the majority of cases of superior protrusion I consider the major lack of development is in the maxilla and *not* the mandible. This is, of course, the reverse of the position taken by those who lay so much stress upon the question of occlusion. In a few, but a very few, cases the protrusion is apparent not real—that is to say, the maxillæ are normal, but the mandible is deficient in development.

Another point to be considered is the rapid increase in the protrusion of the teeth as the child approaches the age of 12. This is due to the action of the canines in erupting. The four incisors may be pushed forward, the teeth maintaining a good curve, or the laterals may be forced under cover of the centrals, giving rise to what is sometimes styled "a rabbit-shaped" mouth.

To sum up, the points to be emphasised are: 1. *Protrusion* of the superior teeth is usually accompanied by some lack of development of the bone, producing a want of relationship between the teeth and the jaw. 2. The maxilla is more often affected than the mandible. 3. The protrusion gets rapidly worse with the eruption of the canines.

What line of treatment do these facts indicate? Clearly, extraction of teeth to relieve the crowding and still further extraction at an early age. This method is at variance with the views of many practitioners who urge that no attempt at correction should be made until after the eruption of the second permanent molars and canines.

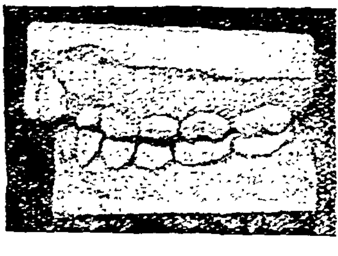
Let us consider for a few moments the disadvantages of delaying treatment; the advantages it is difficult to see. 1. The canine in erupting will move forward, increasing the protrusion of the incisors and also the crowding of their roots. 2. When treatment is commenced the canine must be retracted by mechanical means, and in this process instead of moving bodily back and so giving true relief to the pressure in the front of the mouth it will only swing backwards, leaving the upper end of the root in much the same position as it erupted. The result of this will be a constant tendency for the protrusion when corrected to relapse, simply because the roots of the anterior teeth will remain more or less crowded. 3. The retraction of the incisors will occupy a greater length of time, partly because there will be more protrusion to overcome and partly because the alveolar process will be more resistant. 4. Owing to the prolonged mechanical treatment disorganisation of molar and premolar occlusion often ensues.

If treatment is carried out before the eruption of the canines these teeth will erupt well back, pressure will immediately be taken off the incisors, the protrusion will not increase, and the amount of mechanical treatment will be only slight. Still further, the teeth come into good alignment and the tendency to relapse is reduced to the minimum. If early treatment is adopted the room *for* the canines should be made directly the lateral incisors are in place by removing the unerupted *first premolars. For* this operation an anæsthesia of longer duration than ordinary nitrous oxide is necessary. After a little practice ethyl chloride will usually be found sufficient but if the case is likely to be difficult then ether should be used.

The most suitable instrument for removing the teeth is a pair of upper root forceps with long slender blades. The deciduous molar is first removed. In attempting the removal of the premolar the inner blade of the forceps must be kept well inwards, the blades being thrust well upwards, and extractive force made in an inward direction. The occluding surface of the erupting premolar is directed slightly inwards and unless the *precaution suggested* is taken the inner blade of the forceps impinges on the occluding surface and does not grip the inner aspect.

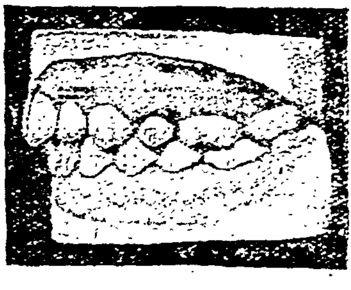
With regard to the treatment of the wound, the best course seems to be to keep the mouth clean by means of an antiseptic wash. If much swelling ensues the use of hot fomentations will generally bring relief.

FIG. 1.



Case 1. Before treatment.

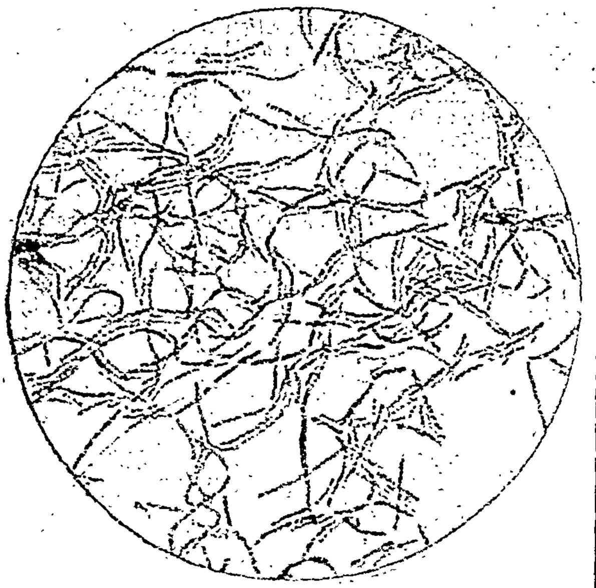
FIG. 2.



Case 1. After treatment.

After the removal of the premolars the case is left alone until the canines have fully erupted, the patient being made to keep the lower lip in front of the upper teeth. Occasionally this simple expedient is sufficient to bring about a complete cure of the case. The effect of the removal of the pressure of the canines on the incisors is interesting. The laterals *soon show* a tendency to travel backward, pointing to a complete relief of the crowding of the anterior teeth. The incisors are eventually brought in elongating and forming linear chains and filaments must obviously be of great help to it, since thereby it is capable of much sooner reaching neighbouring parts than if, like some other microbes, it had the tendency to become localised more or less by forming aggregations, nests, or circumscribed colonies. The above filaments and chains separating ultimately into the component rods, and these again elongating and dividing and thus forming new chains and filaments, furnish the microbe with the power of gradual extension and progress.

FIG. 3.



Culture of the microbe in glucose broth. × 1000.

The microbe is an obligatory anaerobe—that is to say, it cannot grow when freely exposed to air (oxygen); it requires for its growth to be in the depth of tissues deprived of oxygen. In this respect it is like some other microbes which have their home in the alimentary canal, some of which are connected with putrefactive changes occurring in the intestines. Like many other anaerobic bacilli the microbe we are dealing with is Gram-positive but it differs from many of the intestinal anaerobic bacilli in that it is not possessed of motility, as already stated, and neither in suitable artificial culture nor in the tainted ham does it show anything that might be considered as comparable to ordinary spore formation. Most of the known anaerobes occurring in excremental matters, manure, &c.—i.e., in the alimentary canal—e.g., bacillus enteritidis sporogenes, bacillus œdematis maligni, bacillus cadaveris sporogenes (bacillus putrificus coli), bacillus tetani—are capable of forming spores. Neither in the tainted parts (joint, muscle, and connective tissue) have I been able to detect anything in the nature of such spores except once when I found some few of the bacilli which presented the appearance of a terminal body like that of a spore. Nor have I been more successful with cultures. I have carefully examined such cultures after seven, 14, 21, and 30 days in which copious growth of the microbe had taken place, but I have not been able to detect spores in the bacilli or their filaments.

In order to produce artificial culture of the microbe special procedures have to be employed.

1. The microbe shows no growth whatever when planted on the surface of suitable media, being strictly (obligatory) anaerobic; it has therefore to be planted and kept under anaerobic conditions—i.e., in media from which all air (oxygen) had been boiled out and which after inoculation are kept in an atmosphere devoid of oxygen.

2. No growth is produced when the planting is done on ordinary nutrient gelatin, on ordinary nutrient agar, or in ordinary nutrient broth, but glucose gelatin and glucose broth, and particularly glucose pork broth, were found suitable for the production of growth.

3. For the production of artificial growth under the above two conditions small traces of the original material (taken direct from the tainted portions of the ham) are of no good; I have made dozens of cultures in this direction without any result; but using large pieces of the original materials success was obtained. The easiest way for obtaining positive result was to use for the planting bits of the size of a pea of the tissues from the knee—bits of crucial ligaments, bits of the semilunar cartilage, a good slice of the surface of the condyles of the femur or of the tibia, a bit of the capsule. I have failed to produce growth if, for instance, I planted of the slimy superficial fluid of the interior of the joint what could be taken up with the point of a lancet; when a similar amount is used for stained cover-films and is examined under the microscope it is found that it is really an almost continuous layer of the bacilli, such, for instance, like that represented in Fig. 3. And yet notwithstanding this enormous host of bacilli introduced into the culture medium, no result—i.e., no growth—was produced. From this it seems clear that many of the bacilli must be dead and that therefore only few of them buried within the tissues had escaped death and were capable on planting out of starting a new progeny. This would mean, then, that the bacilli not forming spores were not able to preserve their vitality owing either to the continued germicidal or inhibitory action of the curing matter or to the poisonous action of their own chemical products, this latter being a well-known fact obtaining in cultures of non-sporing microbes. I am inclined to attribute to this latter cause the chief devitalising action, since the same takes place also in the artificial cultures of our microbe—viz., that when growth is well established in the culture and in order to propagate it by a new culture, several drops of the turbid culture material have to be used for the successful planting; merely a loopful, although containing thousands of the microbic chains and filaments, produces no results. This is obviously only explained by what we already mentioned—viz., that many of the microbes rapidly die by the action of their own chemical products.

I have not been able to obtain cultures if the infected media are kept at temperatures below 50° F. No successful cultures are produced if the infected culture media are kept at blood-heat temperature (37° C.), but positive result was readily obtained at 20° C. (70° F.). The quickest success was obtained in glucose pork broth, kept for from two to three days at 20° C. (70° F.); in glucose beef broth, or in glucose gelatin, it generally took about five days to a week.

The general nature of the culture is this, that the microbe in its growth invariably forms masses of chains and filaments; the filaments are mostly twisted, wavy, curved, or more or less spiral; by shaking the culture medium (glucose broth) the chains and threads are liable to separate and to break up into shorter parts—individual bacilli or short chains—but there nevertheless always remains a majority of threads, some separate, others remaining matted together into convoluted masses. I have examined successful glucose gelatin cultures in which besides the presence of small and large flocculi (convolutions of threads) many parts were uniformly cloudy by the growth; examining under the microscope these cloudy portions it is seen that the gelatin is uniformly permeated by single threads twisted and curved. In glucose broth the growth is noticed as a voluminous whitish-grey more or less slimy deposit at the bottom of the fluid like a mass of cotton wool, and when it is examined under the microscope is seen to be a convoluted aggregation of filaments. The rest of the fluid remains quite limpid until it is shaken, when the mass breaks up into small and large flocculi and into separate threads.

The glucose gelatin is not liquefied by the growth for many weeks. After about eight weeks at 20° C. the gelatin becomes transformed into a thick, syrupy fluid and there is always great evolution of gas which pervades all parts of the gelatin as small and large gas bubbles. In the glucose broth culture the evolution of gas is not so easily noticed as most of the gas escapes to the free surface, but drawing up into a capillary pipette some of the fluid culture a lot of minute gas bubbles become rapidly visible, thus showing that the gas was present in the fluid in a dissolved state, and separated when mechanically disturbed. All cultures have an offensive putrid smell exactly like the tainted parts of the ham. The reaction of the culture is distinctly alkaline.

Milk is not changed by the growth, but it acquires a nauseating, most offensive odour. Subcutaneous injection of either the tainted muscle itself or of large doses of culture of the microbe into healthy guinea-pigs causes no change of the animals' condition, either locally or constitutionally.

I propose for this hitherto undescribed microbe the name Bacillus fœdans.

St. Bartholomew's Hospital.

be also rotated by means of the ligatures, bands and spurs being attached to the individual teeth in the position necessary to bring about the required movement. There is no mere speculation as to the correct position of the teeth and the size of the arch and the amount of expansion desired, as means have been devised of measuring the teeth and from the measurement obtained the size of the arch and position in which to place the teeth can be almost accurately calculated and varies according to the size of the teeth in each individual case. The geometrical principles on which the movements of the jaws are based have also been studied and a fairly accurate basis for the discovery of the correct size of the arch in any case, with the teeth in position, can be obtained, and measures in a straight line from the distal buccal cusp of the right six year molar to the distal buccal cusp of the left six year molar from about $2\frac{1}{100}$ths–$\frac{48}{100}$ths of an inch in the upper jaw, and from $1\frac{81}{100}$ths–$2\frac{22}{100}$ths of an inch in the lower jaw. The expansion arch if intelligently employed is wonderfully efficient in enlarging the arch in any direction and in the control of the teeth moved individually or collectively. It furnishes the most natural appliance to secure normal occlusion, for by it we can regulate the entire dental apparatus—something impossible in the use of the innumerable appliances that have been devised for the correction of symptoms only without regard for the laws of occlusion.

In treatment of cases of the second class where the lower arch is distal to normal the expansion arches and clamp bands are inserted as described. The force is then exerted from one or more small rubber ligatures which engage on sheath-hooks attached to the upper expansion arch in the canine region and over the ends of the tubes on the clamp bands on the lower molars. The force is reciprocal, acting directly on the molars, the result being to move the lower molars mesially and the upper molars distally. As the lower first molars are carried forward the bicuspids and canines are pushed in advance of them; the lower incisors are also carried forward, being ligated with wire ligatures to the anterior part of the expansion arch. After the upper molars have been moved distally into full normal occlusion it will be found that a space exists between the molars and second bicuspids. The clamp bands on the upper first molars are then removed and smaller clamp bands placed on the second bicuspids. The force of the rubber ligatures is again exerted in order to carry distally the bicuspids. A wire is made to engage the upper first and second bicuspids in order to effect their movement at the same time. Whilst moving the upper molars and bicuspids the arch is kept free from the incisors so as to allow the full force to come upon the former. When the teeth are well back into correct mesio-distal relations with the lower the arch is gradually adjusted to allow the force to be received by the upper incisors and canines, which in turn are soon moved into correct relation with their antagonists. The arch in both upper and lower jaw is usually inserted with a correct amount of outward spring to effect at the same time the required expansion. For the treatment of cases of the third class the above order with regard to the rubber ligatures and clamp bands is reversed.

To retain the teeth again the best device is probably a fixed apparatus. The simplest retainer for a single tooth is made by soldering a round wire to the labial or lingual surface of a band and cementing the band on the teeth. Several bands may be united for the same purpose to retain more than one tooth. An expanded arch can be retained by a stiff wire along the lingual sides of the teeth and soldered to a band on the first bicuspid and first molar teeth on each side. The incisors which have been moved forward or retracted are retained by a similar wire running along the lingual or labial surface of the teeth and soldered to bands on the first bicuspid teeth. The period of retention varies according to the amount of movement brought about and also upon the age of the patient, and may be any length of time between nine and 18 months. The nearer the attainment of normal occlusion in the correction of any case of malocclusion the less need there is for retention, the normal influence of the inclined planes as well as the other forces governing normal occlusion acting to preserve the positions obtained. With normal relations of the arches established, the jaws, the muscles of mastication, the cheeks and lips, and the facial lines will be in best harmony with the type peculiar to the individual, as a perfect profile requires normal occlusal relations.

Upper Wimpole-street, W.

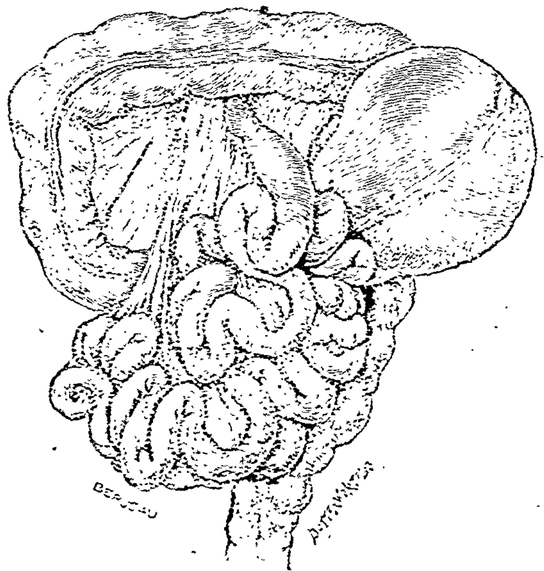
ON A CASE OF MIGRATION OF THE CÆCUM PRODUCING OBSTRUCTION OF THE ASCENDING COLON.

BY JOHN BLAND-SUTTON, F.R.C.S. ENG.,
SURGEON TO THE MIDDLESEX HOSPITAL, LONDON, W.

(*From Notes by the Surgical Registrar to the Middlesex Hospital*, SOMERVILLE HASTINGS, F.R.C.S. Eng.)

WHEN the cæcum is provided with a long meso-cæcum it may lie in any region of the abdomen; perhaps the most unusual situation for a displaced cæcum to occupy is the left kidney pouch, behind the mesentery. When a cæcum migrates in this way it gives rise to a puzzling set of symptoms, as the following case will serve to illustrate.

A poorly nourished man, 48 years of age, came under my care in the Middlesex Hospital for abdominal pain and vomiting. A week before admission he had been seized suddenly with griping pains in the abdomen, particularly on the right side; these were sufficiently severe to confine him to bed and were followed by anorexia and vomiting. The vomit was bile-stained and watery. On admission the abdomen was somewhat distended, but moved evenly on respiration; no tumour could be felt and there was not much tenderness. The temperature ranged about 100° F. As these signs indicated the existence of intestinal obstruction, cœliotomy was performed. On making a free median incision several ounces of purulent fluid escaped and the intestines appeared inflamed and moderately distended. Attention was first directed to the right iliac fossa, but the cæcum and appendix were not there. A tense band of gut extended from the right extremity of the mesentery upwards and to the left, overlapped by mesentery and coils of small intestine; when traced upwards it led to the ileo-cæcal junction in the left kidney pouch. A loop, consisting of the last few inches of the ileum and the ascending colon with the cæcum and appendix, had been twisted on its own axis through half a circle and displaced upwards and to the left. The cæcum had become adherent in its new situation and when drawn down a large necrotic area with two perforations was seen, through which liquid fæces issued. The necrotic area was excised and the edges of the hole thus made in the gut were approximated with sutures. The free fluid in the abdomen was swabbed out, a large rubber tube was introduced into the pelvis, and the incision was closed with silk sutures. The man died 16 hours after the operation.

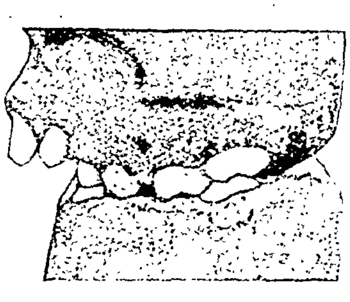


A diagram to represent the position of a cæcum which had undergone torsion and after passing behind the mesentery occupied a position in front of the left kidney.

The patient whose clinical history and fate I have described came under my observation in October, 1906. I was interested and much puzzled by the condition found at with a simple mechanical contrivance, the teeth being retained in position until after the second permanent molars have erupted.

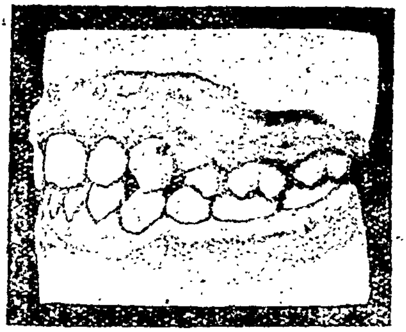
With regard to the treatment of the lower teeth, one is guided by the condition existing. If crowding is present then the first premolars are removed, but the time for removing them is left until the commencement of eruption of the canines. But little is gained by removing the mandibular premolars at quite an early age, as is the case in the maxilla.

FIG. 3.



Case 2. Before treatment.

FIG. 4.



Case 2. After treatment.

Cases of superior protrusion treated in the way suggested do extremely well; there is no tendency to recur, the amount of mechanical treatment is very little, and the occlusion of the premolars and molars is good. In the figures are shown the models of two cases before, and the same cases after, treatment.

Much has been said about the tendency of this type of irregularity when treated to relapse. There will be little if any tendency to relapse if we can: (1) insure that the lower lip in occlusion passes in front of the upper incisors; (2) insure that the lower incisors do not press unduly upon the backs of the upper incisors; and (3) prevent crowding of the upper incisors and canines. The less we are unable to overcome these difficulties the greater will be the tendency to relapse.

THE TREATMENT OF MALOCCLUSION (ORTHODONTIA).

BY H. C. HIGHTON, L.D.S. R.C.S. ENG., D.D.S. PENN.

THE fundamental principle of orthodontia is that we have a thorough understanding of normal occlusion and all that the term implies. It is necessary to appreciate the normal relationship of the teeth of the mandible with those of the maxilla, how each individual tooth is dependent not only upon its fellows mesially and distally but upon the opposing teeth and all the teeth collectively to maintain harmony, and then only is it possible to understand thoroughly any of the various types or deviations from the normal. From a study of skulls of past and present races normally the mesio-buccal cusp of the upper first molar occludes between and buccally to the mesio- and disto-buccal cusps of the lower first molar. The mesial incline of the upper canine occludes with the distal incline of the lower canine, the other teeth if regular being then normally related; it is quite necessary for the first molars and the canines to be correctly related, otherwise malocclusion and alteration of the facial lines must result.

Classification.—The classification of *malocclusion* as suggested by Dr. E. H. Angle[1] is based upon the variation from the harmonious relationship known as normal occlusion, three great classes being represented, the first having normal mesio-distal relation of the arches, the second having the lower arch distal to normal in its relation to the upper either unilaterally or bilaterally, and the third having the lower arch mesial to normal in relation to the upper either unilaterally or bilaterally. The great majority of cases of malocclusion belong to the first class, the second class comprising a small percentage, and the third a still smaller percentage of the various existing cases of malocclusion. In the first class the teeth may be in any possible position of malocclusion which would be consistent with a normal antero-posterior relationship between the arches of the teeth. For example, any of the incisors and canines may be in labial or lingual occlusion, the bicuspids or molars in buccal or lingual occlusion. There may be protrusion of the anterior part of the upper arch or retrusion of the anterior part of the lower arch without disturbing the normal antero-posterior relationship.

The treatment in all cases of malocclusion is therefore simply the placing in harmony of the inclined planes of the teeth and establishing of normal occlusion. The principle underlying this treatment, which is advocated in "orthodontia," is expansion of the arch as opposed to extraction and the consequent narrowing of the arch and alteration of the facial lines. Many people come under our observation with mutilated mouths and abnormal facial expressions that have been brought about by extraction of the teeth, often to prevent some developing form of malocclusion. The ideal to be kept in view is the attainment of normal occlusion which presupposes the full complement of teeth.

There are, briefly, at least three important reasons for the expansion of the dental arch. First, to permit malposed teeth to assume their correct alignment; second, to improve the facial lines; third, to endeavour to broaden the nasal chambers and so increase the capacity for nasal breathing. The latter is naturally a very important consideration, as it concerns the future health and welfare of the patient. Expansion of the dental arch to be most effective should be done as early in life as possible; gradual force exerted while the patient is young encourages the natural development of these parts. In treatment it is also necessary to rotate the teeth, move them labially or lingually, mesially or distally, any of which movements are most easily accomplished by means of the clamp band, expansion arch, and wire ligatures. As the ultimate success of the treatment naturally depends upon the ease of retention of the teeth in the corrected position—viz., in normal occlusion—it will readily be understood how essential it is to retain the full number of the teeth, since only by that means can the inclined planes of the teeth be placed in correct normal relationship which if accomplished will simplify to a very great extent the method and length of time of the retention. Extraction, therefore, should always be avoided if possible, as not only does it destroy the possibility of obtaining an ideal result but also renders more difficult the final retention.

We find that in the majority of the cases of malocclusion the arch is narrow, the teeth crowded together, overlapping, and malposed to a greater or less degree, and the forces which acted in bringing about this malformation are equally powerful in maintaining and exaggerating this condition when once it has been established. Orthodontia aims at placing every tooth in its normal position in relation with its fellows and those of the opposite arch and retaining them in that position until the muscles, alveolus, and tissues of the neighbouring region have accommodated themselves to the altered conditions. The means usually employed to bring about this result is a fixed appliance which is arranged as follows: clamp bands are secured to the first upper and lower molar teeth; these consist of a band with a horizontal tube on the buccal side and a nut and screw on the lingual side to tighten the band to the required size. The ends of an elastic wire arch, the expansion arch, are inserted into the buccal tubes and the arch is ligated to the teeth by means of fine wire ligatures, the expansion being brought about by the arch having an outward spring, while the ligatures can be occasionally tightened. The teeth may to the middle of the sternum, but the absence of cardiac murmurs and the failure to discover any morbid lesion on post-mortem examination sufficient to account for it rendered its explanation difficult without entering into the uncertain region of speculation. A certain degree of cardiac dilatation and neurasthenia, resulting from malnutrition of the heart muscle, may be adduced as a not improbable cause of this symptom. The severe pains so frequently complained of in the præcordial area in cases of acute anæmia have been thus explained by Burney Yeo[4] and there is no reason to doubt that the anæmia of scurvy, which is usually of a severe type, may give rise to similar symptoms, despite the inability to appreciate any definite physical lesion by means of the stethoscope.

---

[1] Treatment of Malocclusion of the Teeth, 1907.

The phenomenon of *pyrexia* in scurvy has apparently not been particularly emphasised in medical literature. In the cases under discussion, however, an elevation of temperature was the rule rather than the exception. In the milder forms of the disease the temperature for days ranged from 99° to 101° F., in the more severe it frequently rose to 103°, while some of those suffering from intercurrent affections died in a state of hyperpyrexia. There is reason to believe that, apart from the effects of the general vascular disturbance, the absorption of the products of extravasated blood was the efficient cause of continued pyrexia. Hæmorrhagic effusion into the tissues has given rise to fever in cases of simple fracture of the femur, the temperature in one case remaining high for ten days, as has been recorded by Volkman.[5] The experience of surgeons during the South African war confirms this fact, for in cases of bullet wounds of the chest the temperature often remained high long after the wounds had healed. This proved to be due to unabsorbed blood clot in the pleural cavity and, as a consequence of this observation, it is now practically an axiom of military surgery that aseptic hæmothorax may be an efficient cause of pyrexia.

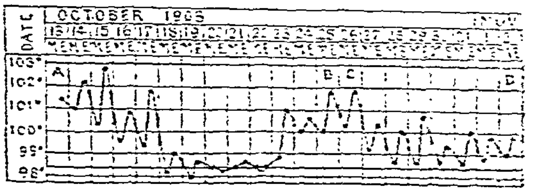
Blood examination.—The method here pursued was that elaborately described by Sir A. E. Wright, in which standardised dilutions of sulphuric acid are used.[6] The maximum value found by this method for the alkalinity of the normal serum is most simply expressed by the fraction $\frac{N}{25}$. This means, in simple language, that a serum which is exactly neutralised by an *equal* volume of a 25-fold diluted normal acid would correspond in alkalinity to a 25 fold diluted normal solution of alkali. Once only has the above result been obtained. In the case of 13 other normal persons the alkalinity varied between the values $\frac{N}{30}$ and $\frac{N}{45}$, while the average alkalinity of the blood has been placed at $\frac{N}{35}$. The blood in 22 of the cases referred to was examined by Lieutenant-Colonel Birt, who was at that time in charge of the Military Hospital Laboratory, Bloemfontein, and the result of his investigations was as follows. In two cases the measure of alkalinity of the blood serum was $\frac{N}{30}$, in six $\frac{N}{35}$, in eight $\frac{N}{40}$, in one $\frac{N}{45}$, in three $\frac{N}{50}$, in one $\frac{N}{60}$, and in one $\frac{N}{70}$. In other words, the alkalinity falls below $\frac{N}{45}$ in five only out of 22 cases; it is average normal, $\frac{N}{35}$, in six, still higher, $\frac{N}{30}$, in two; while the average for all the cases is equivalent to about $\frac{N}{42}$.

With regard to the results of post-mortem examination, one fact need only be emphasised—namely, the constant presence of ante-mortem thrombi in the heart and great blood-vessels.[7] These in some cases were so large as to add considerably to the weight of the heart, while in others they were found to have plugged up the aorta and pulmonary artery at their points of origin. This phenomenon was somewhat disconcerting, considering what prevailing theories might have led one to expect. The results of Lieutenant-Colonel Birt's examination certainly point to a diminished alkalinity of the blood; but the diminution is by no means so serious as the gravity of the disease would lead one to expect.

Sophie and Moraczenski[8] found the alkalinity of the blood reduced in anæmia and chlorosis, and one might legitimately infer that the results obtained from blood examination in the above-mentioned cases were sufficiently explained by the anæmia, often profound, which is always associated with scurvy. But a reference to the condition of the blood as found on post-mortem examination again adds to one's perplexity in view of authoritative statements as to the diminution of blood coagulability in this disease. In pneumonia and other debilitating diseases thrombi are frequently formed in the heart during the death-agony, presumably owing to the waning power of the ventricular systole, and it is obvious, from the results just stated, that the same thing happens in scurvy in even a more exaggerated form. Professor Stockman has stated that the blood in scurvy coagulates normally, and the facts just referred to are not unfavourable to his conclusion.[9]

Treatment.—The usual hospital diet for a native consisted of half a pound of mealie meal three times a day. To this was added for each scorbutic patient a daily allowance of four ounces of lime-juice and two ounces of sugar. Three months' experience of such a diet proved unsatisfactory—in fact, disastrous. Within that period nine kaffirs died and the survivors had made very little progress towards recovery. Calcium chloride, in doses of ten grammes thrice daily, was given, but in view of the increasing mortality its use was soon abandoned. At this stage it was thought advisable to reconsider the dietary, as the utmost freedom was allowed in the choice of fresh food and vegetables. Half a pound of fresh meat was added to the daily dietary of each patient; it was partly broiled and partly utilised as raw-meat juice. In addition to this each individual received ten ounces of fresh vegetables, four ounces of jam, and four ounces of fresh fruit, while a mixture consisting of citrate of potassium and infusion of calumba was given thrice daily. The good effects of this treatment soon became evident. In about ten days patients who had been too weak to stand when admitted to hospital began to walk, hæmorrhagic swellings gradually disappeared, and the fever abated. Further, of the 13 deaths referred to two only fall within this period, but they occurred at so early a stage of it that it may reasonably be inferred that the change in treatment was too late to benefit them.

In consequence of such good results it was decided to test the value of fresh meat alone as a remedy in scurvy. Accordingly, a kaffir boy (Maguta), who presented the signs and symptoms of the disease in a marked degree, was selected for this special diet. His gums were spongy, the last lower molar teeth were surrounded by tags of bleeding tissue, and the hard palate was covered with small petechiæ. He could hardly stand when admitted to hospital. On the fourth day after his admission, although his temperature registered 101° F., he was put on the diet already described. To this two pints of sterilised milk were added, as a "placebo." By the sixth day the temperature had fallen below normal and at this stage the quantity of fresh meat was increased to two pounds per diem. The temperature again rose slightly and remained high for a few days; but when the mouth and gums were examined on the twelfth day it was found that the tags of bleeding tissue had disappeared



A, Meat and raw-meat juice. B, Sponginess of gums almost disappeared. C, Bread, milk, and vegetables added. D, Potassium citrate mixture. The patient was discharged from hospital on Nov. 11th; from Nov. 2nd to that date his temperature varied between 98° and 99°, except that on the morning of Nov. 8th it fell to 97°. The patient was the Kaffir boy Maguta whose case is described above.

---

[4] Article on Cardialgia, Burney Yeo's Manual of Clinical Treatment.

[5] Coats's Pathology, p. 412.

[6] THE LANCET, Sept. 12th, 1907, p. 719.

[7] Brit. Med. Journ., Nov. 9th, 1907, p. 1353, article by Lieutenant-Colonel Birt, R.A.M.C.

[8] Virchow's Archiv, Band cxliv., Heft 1.

[9] Gibson's System of Medicine, first edition, vol. ii., article on Scurvy by Professor Stockman, p. 21.

the operation; my interest was increased by reading a valuable contribution by Mr. Jonathan Hutchinson, jun.,[1] on Volvulus of the Entire Small Intestine and Ascending Colon. This communication was founded on a case which is in its leading features like the one which I have endeavoured to describe, but Mr. Hutchinson fortunately saved his patient; he also made his paper valuable by furnishing an analysis of nine other similar cases of volvulus. Mr. Harold W. Wilson has since published an account of a case of migration of the cæcum producing obstruction of the ascending colon which occurred in St. Bartholomew's Hospital in the practice of Mr. Harrison Cripps[2] which resembles my case in its main features.

This complication connected with the cæcum is worth the attention of surgeons, as descriptions of it are not to be found even in monographs dealing with intestinal obstruction. Its importance is obvious from the fact that the majority of the patients in whom it has occurred have died. Judging from a study of the recorded cases it would appear that the chief variations in the degree of the displacement depend upon the extent to which the twist or rotation involves the mesentery. For example, the extreme condition occurs in patients in whom the intestines, including the third part of the duodenum, the cæcum, and ascending colon, are attached to a common mesentery. When such an anatomical condition exists, and it is a recognised anomaly, the whole of the small intestines, the cæcum, and ascending colon may be concerned in the volvulus. In my patient the parts implicated included the terminal 12 inches of the ileum, the cæcum with the vermiform appendix, and half the ascending colon. The condition of the third portion of the duodenum was not noted either at the operation or post mortem. During the operation the absence of the cæcum from the right iliac fossa was detected as soon as the abdomen was opened, because it is with me a matter of routine in operations for intestinal obstruction to ascertain the condition of the cæcum as the primary step after exposing the abdominal viscera.

I think the fatal nature of this form of volvulus is mainly due to delay on the part of hospital patients in seeking advice. The signs are not so urgent as in acute obstruction of the small intestine, and when the patients are admitted the obstruction may not be absolute, for enemata bring away small quantities of flatus. Abdominal distension is not a marked feature. In the case under my own care the diagnosis seemed to lie for the first few hours between perforation of the appendix and intestinal obstruction; then the indications of obstruction prevailed. The signs of perforation were not counterfeit, for, as has already been mentioned, there were two holes in the wall of the cæcum. The man was gravely ill at the very hour of his admission.

Brook-street, W.

---

[1] Clinical Journal, June 5th, 1907.

[2] St. Bartholomew's Hospital Reports, vol. xliii., p. 147.

NOTES ON SCURVY IN SOUTH AFRICA, 1902-1904.

By DUNCAN MACKENZIE MACRAE, M.A.,
M.B., CH.B. GLASG.,
LATE CIVIL SURGEON, SOUTH AFRICAN FIELD FORCE.

THE earliest information which emerges from the twilight of antiquity in regard to scurvy is perhaps that supplied to us by Pliny who states that a disease which was cured by eating a certain vegetable prevailed in the army of Germanicus. Thucydides, who has been styled "the greatest historian that ever lived," described the horrors of the plague at Athens (B.C. 430) in words of lurid fire; but, unfortunately, no such writer has left us a record of scurvy, as it existed among the ancients, although we may well believe that the conditions under which they often lived and waged war were favourable to outbreaks of the disease on a large scale. There is evidence, more or less reliable, that in mediæval times it frequently broke out in beleaguered towns and garrisons, but it is only when we approach the records of early maritime enterprise that we stumble upon anything like a definite description of its nature and occasional virulence. The sailors of Bartholomew Dias (1486), Vasco da Gama (1496), Raymond (1591), and Lancaster[1] (1601), in their early voyages round the South African promontory, suffered more or less from scurvy. The best accounts of it, however, are to be found in the narratives of such navigators as Jacques Cartier, Dampier, Anson, and Captain Cook. Lancaster and Captain Cook, in their longer voyages, proved the efficacy of lemon juice as a remedy in the disease and Dampier records with some enthusiasm the benefits resulting to his crews from a short stay on the island of Juan Fernandez (1683), where they were fed on vegetables and goats' flesh, "a regimen which," to use his own words, "proved very beneficial." Anson's[2] account, however, is less glowing, for when he landed his scorbutic sailors on the same island in 1739 he relates how, although many greatly benefited eventually, "the disease continued unabated for 20 days" and in some cases assumed an intractable form. The first clear and scientific record of scurvy is to be found in the writings of Lind (1797); and it is largely due to his insight and the efforts of Sir Gilbert Blane that the disease has been banished from the navy and mercantile marine.

It is not at present intended to do more than briefly to summarise and comment upon the phenomena of the disease as observed among the kaffirs during, and for some time after, the South African war. Through the courtesy of the officers of the Royal Army Medical Corps, the writer, while stationed at the Military Hospital (No. 8), Bloemfontein, during the years 1902–04, was permitted to take charge of all kaffirs admitted suffering from scurvy, and it is on the observations then made, in conjunction with Lieutenant-Colonel C. Birt, R.A.M.C., and Captain J. W. West, R.A.M.C., in regard to its symptoms, behaviour under treatment, and the condition of the blood on examination that the following remarks are based.

Two hundred natives suffering from scurvy were treated in No. 8 Hospital during the above-mentioned period, and of this number 13 died. But before describing the most striking symptoms, although the writer is unwilling to encumber this article with exhaustive references to the literature of the subject, it may be well to mention the several theories which have been at different times advanced in explanation of this disease. Garrod believed that it was due to a deficiency of potassium salts in the food. Ralfe ascribed it to the absence of vegetable acids, such as malates, citrates, and lactates, causing diminished alkalinity of the blood. Sir A. E. Wright describes it as "an acid intoxication which eventuates in a defect of blood coagulability" and some have supposed it to be due to a specific micro-organism. The most recent suggestion, due to Professor Torup of Christiania, is that the disease is a kind of ptomaine poisoning resulting from eating tainted meat. The experiences of Mr. Jackson and others in the Arctic regions, and the experiments of Dr. R. J. Harley in support of their observations—viz., that those living exclusively on fresh raw meat escaped the disease under the most trying circumstances, while those supplied with lime juice suffered from it—would seem to throw discredit on the time-honoured view that fresh vegetables and lime juice were efficient preventives against it.[3]

The pendulum of scientific thought was thus suddenly swung to the other extreme—a not uncommon error in the history of human speculation; but it must be admitted that the problem of the etiology of scurvy still remains unsolved.

Signs and symptoms.—These, in the main, conformed to the descriptions found in text-books. Petechial ecchymoses of the skin, hæmorrhagic swellings in the neighbourhood of joints (more especially the knee-joints), ulcers of the buccal cavity, and a brawny induration of the anterior aspect of the legs were the prevailing signs of the disease. Serious complications, such as hæmothorax and sero-sanguinolent effusions into the pericardial sac, were not uncommon and always terminated fatally; but the spongy condition of the gums, usually regarded as an infallible sign of scurvy, was by no means a constant characteristic in the cases under consideration, so that some difficulty was at times experienced in arriving at a correct diagnosis. It was absent even in some of the most serious cases admitted to hospital. A striking feature in the disease was the almost universal complaint of *pain in the chest*. This pain was usually referred

---

[1] Theal's History of South Africa (1486–1691), Chapter I.

[2] Dampier's Voyages: Anson's "Voyages Round the World," by R. Walter.

[3] Article by Dr. W. H. Neale in the Practitioner, 1896.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF STRANGULATED MECKEL'S DIVERTICULUM IN A RIGHT INGUINAL HERNIA.

BY A. F. STOKES, M.B., CH.B.,

HOUSE SURGEON, HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

THE patient, aged three months, was admitted to the Hospital for Sick Children, Great Ormond-street, on May 16th, 1908. He had been breast-fed and was always a healthy baby except for occasional attacks of abdominal pain, during which the legs were drawn up and the stomach seemed full of "wind." There had been no attacks of vomiting, no diarrhœa, and no passage of blood or mucus by the bowel. A rupture had been first noticed two days before admission to hospital which could not be reduced by the practitioner who had attended the child. The lump had gradually got larger and the skin over it had become red. The baby had vomited once two days previously. He had always been constipated but the bowels opened naturally on the day of admission. Micturition was normal. The patient was a pale, feeble-looking child, with drawn face and sunken eyes. The heart and lungs were normal, the pulse was about 100, and the temperature was subnormal. There was a tense swelling in the right inguinal region, tightly gripped by the external ring and extending into the scrotum, where the testis was felt to be enlarged and hard below the tumour. Squeezing the testis caused no pain; the left testis was fully descended.

At the operation the right inguinal canal was cut down upon, the external oblique split up, and the sac, which was very œdematous, was exposed. On being opened it was found to contain a loop of small intestine adherent by filmy adhesions to the sac wall; there was very little fluid in the sac. At the upper part of the neck there was a strangulated club-shaped Meckel's diverticulum originating from a separate loop of gut and nipped at its base. The internal oblique was nicked so that the diverticulum and loop of gut might be delivered—there was a small perforation at the spot where it had been constricted. The base was clamped, tied off with silk, the diverticulum was removed, and the peritoneum was brought over the stump by purse-string suture. The testis, which was gangrenous, was removed. Radical cure was performed after Bassini's method.

With regard to the after-history of the case the child at first was rather collapsed, but on the next day he was doing well. Unfortunately, vomiting and diarrhœa began on May 18th, but this was checked by usual remedies. On the 20th vomiting began again and the child died in a few hours from exhaustion. No post-mortem examination was obtained.

I am indebted to Mr. H. Stansfield Collier, in whose ward the patient was, for permission to publish this case.

NOTE ON A CASE OF SUICIDAL CUT-THROAT.

BY A. BANKS RAFFLE, M.D. DURH.

THE following case is of interest as presenting many features that we usually look for in homicidal cases.

The patient, a miner, aged 54 years, after inflicting serious injuries on his wife and child, cut his own throat with a razor and died in eight minutes (roughly) from the time of committing the act. He was a man of violent temper who indulged intemperately in alcohol, but apparently he was sane. The wound was very severe, extending in a perfectly transverse direction across the neck to the border of the sterno-mastoid muscle which was slightly divided on either side, and it divided the thyro-hyoid membrane and severed both external carotid arteries just above their origin from the common carotid. The wound on section was bow-shaped, being deepest in the middle part and tapering at each end, extending down to the body of the vertebra at its deepest part. There were no wounds except the one mentioned.

The case is of interest, since the wound presented more of the features of a wound that was inflicted by another than a self-inflicted wound. The man's determination was remarkable; on being caught he levered the edge of the razor both upwards and downwards, attempting also to injure one of his captors.

Westoe, South Shields.

DERMOID CYST OVER THE MASTOID PROCESS.

BY P. MAYNARD HEATH, M.S. LOND., F.R.C.S. ENG.,

ASSISTANT SURGEON TO THE EVELINA HOSPITAL FOR SICK CHILDREN, SOUTHWARK BRIDGE-ROAD, S.E.

THE patient, a boy, aged four years, had suffered from a swelling behind the left ear since birth. It had gradually increased in size and at the time of examination was half an inch in diameter. The swelling was cystic and freely moveable under the skin and over the deeper structures. The cyst was removed and was found to be lined by a simple stratified epithelium and to be filled with cheesy material. There was no deficiency in the underlying bone or periosteum. The case is recorded as dermoid cysts in this situation seem to be somewhat uncommon.

Devonshire-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Reduction of an Old Subcoracoid Dislocation of the Humerus by Excavating the Glenoid Cavity through a Posterior Intermuscular Incision.—Cystic Tumour of the Suprarenal Body successfully Removed by Operation.—Compound Fracture of the Arm.—Ununited Fracture treated by Planting Small Fragments of Bone between the Ends.

A MEETING of this section was held on June 16th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. W. G. SPENCER read a paper on the Reduction of an Old Subcoracoid Dislocation of the Humerus by Excavating the Glenoid Cavity through a Posterior Intermuscular Incision. He said that the forcible reduction of old dislocations at the shoulder had been often described as a successful measure, but the use to which the patient could afterwards put the limb or whether he had thereby been predisposed to a recurring dislocation had generally been passed over without mention. The employment of forcible measures had frequently caused additional injury, many dying from rupture of the axillary artery. That method would only now be practised in a limited fashion. Some cases, for one reason and another, remained unreduced, the patients making what use they could of the mobility of the scapula. Kocher's method of reduction had been recently reviewed and defended by Bach.[1] Excision of the head of the humerus in order to regain mobility formed the subject of a paper by Sheild.[2] In the paper, and in the discussion which followed, a number of cases were mentioned and since then that operation had often been practised. Some form of anterior incision had been adopted. The operation was difficult because the operator had to cut freely through displaced and altered structures which could not be well identified; the circumflex nerve was always in danger of being injured, as were also the other axillary structures. There was left a wound cavity in which blood tended to collect and to break down. Although the result obtained might be good as regarded mobility there might be little strength in the arm. Lord Lister in his presidential address to the Hunterian Society in 1890 described two cases of bilateral dislocation for which he had performed arthrotomy. After freeing the head from its muscular attachments he reduced the dislocation by the aid of pulleys. Keetley[3] advocated arthrotomy and included a full history of the subject. Lister's method of arthrotomy, aided by extension by pulleys, left the and that nothing remained in the mouth indicative of scurvy beyond a few petechiæ on the hard palate. The temperature still remained elevated and the legs were slightly swollen and tender, but the patient could now stand with ease. Fresh vegetables were added to the meat diet and in two weeks' time the patient, having made a good recovery, was discharged from hospital. It may be added that the results obtained in many cases by substituting a liberal supply of fresh milk, bread, and vegetables for meat were also very satisfactory.

---

[1] Deutsche Zeitschrift für Chirurgie, 1906, vol. lxxxiii., p. 27.

[2] Transactions of the Royal Medical and Chirurgical Society, 1888, vol. lxxi., p. 173.

[3] THE LANCET, Jan. 23rd, 1904, p. 207.

Supposed causes.—If the exact causes of this outbreak of scurvy cannot be unequivocally determined something of importance at least may be gathered from a consideration of the circumstances attending and preceding its occurrence from facts observed by others and from the results of treatment. Most of the kaffirs who gravitated to Bloemfontein after the war had followed the fortunes of the British army for nearly three years previously, and during that time they had been served with the same rations as the British soldier —namely, preserved meat and vegetables. The food was good and consequently, in spite of many hardships, the kaffirs, who were on active service, remained healthy, while scurvy was not unknown among those located in refugee camps. After peace was declared, however, the conditions of service with the Government were reversed, the natives providing all their own food except the kiln-dried mealie which was issued as the Government ration.

Those who know the kaffir and his haphazard habits in regard to securing food will not readily infer that, in these circumstances, good meat was more than a precarious element in his daily diet. In any case these were the conditions, so far as ascertainable, under which the disease occurred in Bloemfontein, and it may be presumed that those cases found among natives not employed by the Government were in a measure contributed to by the conditions necessarily arising out of a state of war which cut them adrift from farms on which they were regularly employed and fed, and where the fresh South African grown mealie formed a more or less certain constituent of their daily fare. The use of the imported mealie has at different times been adduced in explanation of outbreaks of scurvy in the South African mines, and an outbreak in the Southern Bechuanaland Protectorate in 1903 followed upon the substitution of the American for the African grown mealie.

It may be legitimately inferred, however, from observations made by Dr. Donald M. Macrae, that the outbreak of scurvy in the prison of Gaberones, Bechuanaland, was contributed to by the exclusion of meat, except in the case of Europeans, from the prison dietary. Natives doing hard labour were fed on mealie meal thrice daily, but European prisoners were allowed one pound of fresh meat per diem in addition. Scurvy of a most intractable kind broke out among the natives, while the Europeans escaped the disease. The inclusion of fresh meat in the native dietary, however, has completely banished scurvy from the Gaberones prison. A casual examination and comparison made four years ago of the prison scale of rations in different parts of South Africa convinced the writer that no surprise ought to have been expressed at the existence of scurvy, occasional or otherwise, among native prisoners, except on the assumption that the average kaffir is superior to the common wants of nature. It may be presumed, however, that an improved dietary accounts for the absence in recent medical literature of any reference to prison scurvy in South Africa.

Finally, it has already been pointed out how the continued use of kiln-dried mealies in hospital, even with lime-juice and such fresh vegetables as were available, was followed by untoward results. And it has been remarked that the mortality in the native Military Hospital at Bloemfontein ceased shortly after fresh meat was added to the daily diet. Again, fresh meat, when used exclusively in the manner described in the case of the native boy referred to, was found to be a powerful antiscorbutic. So far, then, the evidence connecting the incidence of the disease with a deficiency of fresh vegetables is more or less direct, while that associating it with defective meat is less direct than inferential.

General remarks.—Although the explanations of scurvy hitherto given—from the etiological side—can at best be received only as graduated certainties, liable at any time to correction or revision, still the arguments advanced at different times in support of the prophylactic and curative remedies employed in the disease are based upon the practical experience of competent observers. When, in the domain of speculative or scientific thought, eminent men are divided in opinion they usually divide the truth between them. Whatever differences of opinion may exist in regard to the etiology of scurvy or the methods of treating the disease, it seems that one point has not been sufficiently emphasised on which all might well have agreed—namely, that in a disease which reduces the body to a condition of extreme debility the remedy which is best calculated to yield the maximum of energy in the minimum of time is that which ought in the first place to be applied. Specifics apart from this are valueless. The juice of fresh raw meat, owing to its stimulating and nutritive properties, is well suited to such a condition. And the same may be said of fresh milk, the albuminoid constituents of which supply the place of the rich animal food mentioned. Both are antiscorbutics, both supply energy, and both entail the minimum of strain upon the assimilative functions of the body.

It is a fact of clinical experience, supported by the authority of generations of observers, that the addition of fresh vegetables and lime-juice to an ordinary "general diet" cures the average case of scurvy. But since it has been recently observed that a certain constituent of what is called a "general diet" is itself a powerful antiscorbutic, doubt has arisen as to whether the virtues ascribed to the time-honoured specifics—fresh vegetables and lime-juice—have not often been largely reinforced by that component of the "general diet" to which specific qualities were not attributed in the past. It seems beyond doubt, however, that the elements necessary to maintain the equilibrium of bodily health belong to both fresh vegetables and animal food. Yet the facts of clinical experience have convinced the writer that the recent tendency to ascribe even the preponderance of merit in the treatment of scurvy to the use of fresh meat is not without considerable justification. In fresh raw meat or raw-meat juice the physician possesses a remedy which he may use even in severe cases of scurvy, in the invincible assurance that he will not be put to shame, but it is especially valuable in those cases which seem to linger on indefinitely under the ordinary methods of treatment.

It should not be forgotten, however, that the question as to the relative value of meat and vegetables in the treatment of scurvy is an old one, for this was a moot point among naval surgeons as early as 1797.[10] The eminent physician, Sir Thomas Watson,[11] used roast beef in the treatment of the disease and has spoken highly of its efficacy. And it may be gathered from the records of the early navigators that the Island of Juan Fernandez proved a paradise for their stricken crews, not merely on account of its richness in fresh fruits and vegetables but also because "it abounded in herds of wild goats," the flesh of which, as Dampier tells us, formed part of the dietary of his scorbutic sailors.

Scurvy is still met with in South Africa, notably in Johannesburg and its environs, and different opinions have prevailed as to its real nature. Some have spoken of it as associated with a form of beri-beri,[12] while others have regarded it as a new disease quite distinct from the classical type described in text-books. Quite recently Dr. N. MacVicar, of the Victoria Hospital, Lovedale, has in a careful and sensible article given his own impressions of the disease as found by him among the natives in his immediate vicinity and some of his observations, particularly those concerning pyrexia in scurvy, corroborate those which were made four years earlier in the military hospital at Bloemfontein.[1]

Philippolis, Orange River Colony.

---

[10] Brit. Med. Jour., March 12th, 1904.

[11] Watson's System of Medicine, fourth edition, article on Scurvy.

[12] Transvaal Medical Journal, June, 1906.

[13] South African Medical Record, April 25th, 1906, p. 1.

ROYAL PORTSMOUTH HOSPITAL.—At a meeting of the governors of this hospital held on June 19th a formal proposition authorising the sale of funded property to the amount of £4000 to meet the cost of a new out-patient department was about to be moved when the gratifying announcement was made that a donor who wished to remain anonymous would defray the entire cost of the new building. This splendid gift should stimulate all classes in Portsmouth and the neighbourhood to maintain the hospital in the highest efficiency and to promote its widest service.

false joint and the middle portion of the glenoid cavity, without disturbing the important origins of the biceps and triceps from the upper and lower borders of the rim. 3. At the operation an assistant could cause the deformity resulting from the dislocation to aid the surgeon; by means of the arm he could push the neck of the scapula towards the surgeon and hold it fixed whilst the glenoid cavity was being excavated. 4. The head of the humerus was replaced with its muscular insertions and its articular surface intact. It could then move freely in the excavated glenoid cavity. But it was not liable to become displaced again, for all the muscles were still attached yet had become somewhat shortened in the time which had elapsed after the accident. Hence passive and active movements could be begun early. If indeed the operation were to be adopted for a quite recent dislocation, whilst the rotators of the head were still stretched or perhaps partly torn, then it might be necessary to limit the movements of the shoulder until the muscles should have contracted up.—The PRESIDENT said that the value of the operation was in obviating the division of the important muscles round the shoulder-joint.—Mr. RUSHTON PARKER said that enough was not done in these cases to make surgeons acquainted with the amount of defect that might be tolerated without impairing the power of a working man to earn his living. He thought that the operation described by Mr. Spencer was deserving of recommendation.—Mr. T. H. KELLOCK gave the details of a similar case in which he had performed an operation like that described by Mr. Spencer, but he (Mr. Kellock) had used an anterior incision. He suggested that a posterior and an anterior incision would be the most satisfactory way of approaching the joint in these cases.—Mr. SPENCER replied.

Mr. ALBAN H. G. DORAN read a paper on a Cystic Tumour of the Suprarenal Body successfully removed by operation. He reviewed the records of 13 cases of cystic tumour of the suprarenal body, large enough to be of clinical and surgical interest, including one in his own practice of a woman aged 62 years who had been subject for ten years to attacks of pain after food, and recently to sharp pains referred to a firm oval tumour in the left *hypochondrium*. It was half hidden under the ribs but could be pushed downwards below them. There was resonance on percussion over part of its anterior surface. Diagnosis was uncertain. He operated, making the abdominal wound along the outer border of the left rectus. The peritoneum was incised externally to the descending colon and the tumour was enucleated with ease. Some large vessels running into its upper and inner part required ligature. The left kidney was seen lying internally to the tumour and mainly below it. No drainage was employed. The tumour was a thick-walled unilocular cyst, containing half a pint of bloody fluid. Much adrenal tissue was detected in its walls. It was an instance of the struma suprarenalis cystica hæmorrhagica of Henschen. Several other cysts of this class were included in the series, to which was added a doubtful case recorded by Lockwood. The minority were adenomatous or lymphomatous cysts. A history of injury existed in two out of the 13 cases; attacks of local pain were the rule; bronzing of the skin was noted in one case only (McCosh) and it disappeared after removal of the tumour. Incision and drainage had proved most unsatisfactory; the wall of a blood cyst was soft and in one instance tore itself away when sutured to the abdominal wound, with a fatal result. In another case the patient died, and it was afterwards found that the cyst could easily have been enucleated. This incomplete operation was adopted in a third case because the cyst was believed to be pancreatic so its base was not removed. The patient recovered. Complete removal of the cyst was the proper surgical treatment. Recovery followed respectively in Pawlik's, McCosh's, and his own (Mr. Doran's) cases, as well as in Lockwood's case, where the nature of the cyst was doubtful. The proximity of the aorta or vena cava should always be borne in mind. Six of the cases were mainly of clinical interest, not having been subjected to operation.—Mr. C. B. LOCKWOOD said that he had in 1898 exhibited a retroperitoneal cyst[3] supposed to have originated in remains of the Wolffian body and he had operated in two additional cases in which both the patients were young women, recovery following the operation in each case. Both the cysts were in the left side. One was the usual type of cyst, full of clear fluid and freely moveable. The other cyst was attached to the lower end of the left kidney and at its attachment some solid growth was found which proved to be adrenal tissue. Mr. Lockwood considered this case to supply a very important link in the chain of evidence which had led him to attribute the origin of these retroperitoneal cysts to remains of the Wolffian body which, as was well known, gave origin to the adrenal body and adrenal remains. These retroperitoneal cysts had fairly constant clinical characters. The patients were nearly always females. The tumour was on the left side, it was freely moveable, and was usually thought to be a moveable kidney. It caused continual pain and discomfort. In the four cases of which Mr. Lockwood had had experience the cysts were safely removed by incision into the abdomen through the outer edge of the left rectus abdominis, the cysts being exposed by dividing the descending meso-colon. In the case of the cyst attached to the kidney the kidney substance was incised and brought together with catgut.—Mr. DORAN replied.

Mr. RUSHTON PARKER read a paper on a case of very severe Compound Fracture of the Arm which he illustrated by photographs and lantern slides. The points to which he desired to draw attention were the slinging of the arm to the neck and the flexion of the elbow to a more or less acute angle. In a fracture of the lower fourth of the humerus on account of the invariable tendency to adduction of the condyles under the weight of the elbow a twist imparted to a metal splint hollowed to fit the limb effectually maintained the lower smaller fragment in line with the upper while controlling both.

Mr. PARKER also read a paper on Two Cases of Ununited Fracture treated by Planting Small Fragments of Bone between the Ends.

OPHTHALMOLOGICAL SOCIETY.

An Epidemic of Contagious Conjunctivitis Due to the Pneumococcus.—Hereditary Eye Disease.—Secondary Xerosis.—Lower Corneal Plaques.—Exhibition of Cases and Card Specimens.

A MEETING of this society was held on June 11th, Mr. R. MARCUS GUNN, the President, being in the chair.

Mr. P. E. H. ADAMS read a paper on an Epidemic of Contagious Conjunctivitis due to the Pneumococcus. He said that the epidemic occurred in the spring in a small school of 37 boys, 21 of whom were attacked. The eldest boy affected was 14 years of age, the youngest being nearly ten years old. All the smears taken except one showed numerous Gram-positive diplococci. Most of them were typically flame-shaped pneumococci with capsules, though a few of them were rounder in shape and in some the capsules were not evident. This agreed with the description given by Schmidt[1] of smears taken from cases of pneumococccal conjunctivitis. On blood agar the colonies were typical slow-growing pneumococci and there was no growth on agar. Only three of the cases were at all acute, most of them being subacute or quite mild. Four cases of relapse were reported. The condition found on examination was fairly constant—general congestion of the lower palpebral conjunctiva, with slight injection of the ocular conjunctiva, and in the acute cases a thin line of muco-pus in the folds of the conjunctiva of the lower lid. The upper lid showed slight enlargement of follicles at the angles, and a row of minute follicles along the everted edge. The whole epidemic lasted about five weeks and spread in spite of isolation. It agreed in almost every respect with previously reported outbreaks, the chief difference being the generally mild nature of the cases.

Mr. E. NETTLESHIP read notes of three cases of Hereditary Eye Diseases. Case 1 was that of a husband and wife who had senile cataract at an advanced age, and both were operated on with success. They had ten children, seven of whom had cataract in various degrees, two of these having had them "matured" and operated upon at a much earlier age than in their parents. There were also slight lenticular changes in the grandchildren of the original couple. The second family showed the occurrence of "Coppock" or discoid cataract, and lamellar cataracts of various sizes, and likewise of retinitis pigmentosa. Among about 250 persons Mr. Nettleship had been able to trace, belonging to the family, 32 with family cataract and 15 with retinitis pigmentosa. The sex incidence and mode of descent were shown to be different for the cataract and retinal disease shoulder with very limited mobility. After prolonged passive movement and massage the patient would generally not be able to raise his arm above the level of the shoulder. Subcutaneous division of bands and osteotomy of the neck of the humerus had not obtained any vogue. The method of obtaining reduction through a posterior intermuscular incision by excavating the glenoid cavity suggested itself to Mr. Spencer because it seemed an adaptation to the shoulder of the procedure previously employed at the hip. For a traumatic dorsal dislocation of the hip of five months' standing in a boy aged seven years he had made an anterior incision between muscles, and without injuring any important structure excised the obstructing capsule and the dense fibrous tissue filling the acetabulum. After making a well-marked cup the unaltered head of the bone was returned into place by manipulation without using any force. He afterwards showed the boy at a meeting of the Clinical Society of London with a good return of movement.[4] He could not find that he had been anticipated in the description of the operation which he had adopted on the shoulder, nor in putting forward the considerations which seemed to him to support the method. As to a posterior incision to expose the shoulder-joint Kocher in his "Operative Surgery" described cutting through the acromion and infraspinatus. He had followed the recommendation in the case of tuberculous disease in a child in which the glenoid cavity was the chief part affected and a caseous abscess was pointing behind. But that was a quite different operation. Indeed, all writers contemplated old dislocations of the shoulder from the front. The only illustration of a dissection from behind which he had met with was contained in a tract by Bonn in the library of the society. It was a drawing from a dissected post-mortem specimen and it showed in particular the mass of thickened capsule with calcareous plates resulting from the injury. Moreover, in old shoulder dislocations placed in museums they had usually been dissected from the front. He showed an exception to that from the Royal College of Surgeons Museum. It was a post-mortem specimen dissected by Flower and it exhibited the relations of the muscles, but much of the thickened capsule had been cut away as well as part of the deltoid, the infraspinatus, and the teres minor. The relation of the long head of the biceps and that of the triceps to the dislocation was the chief point to which he would draw attention in the specimen. The occasion for the employment of the operation was as follows. A weakly man, aged 53 years, had had ten years before a cerebral vascular lesion causing right hemiplegia and aphasia. From that he had so far recovered but his right side remained weak, and his speech was difficult to understand, though that was partly due to his being edentulous. In August, 1907, he was walking on the pavement when he slipped off the curb and fell into the gutter, hurting his left shoulder. He went at once to a medical man who, so he said, told him that there was nothing wrong with the shoulder. Three weeks later, on the advice of a friend, he attended the out-patient department of a general hospital; then he was anæsthetised and an attempt at reduction was made. He was then admitted to the hospital ward and two further attempts at reduction were tried, both under an anæsthetic. He was afterwards given to understand that nothing more could be done for him and he left the hospital. Two months later he went to Dr. S. G. Tippett of Staines who at once sent him into the Westminster Hospital under him (Mr. Spencer). His left arm could hardly be moved at all from the side on account of a subcoracoid dislocation by which the head of the humerus was firmly fixed to the scapula. There was extensive eczema in the axilla and around owing to the arm being kept to the side. The dislocation on the left side, along with the hemiparesis on the right, rendered him quite helpless. Thus an operation to free the left shoulder was particularly indicated, whatever objection might be made to it on account of the weakness of the patient and the probable state of his cerebral vessels. He operated on Nov. 13th, 1907, three and a half months from the time of the accident, after especial care had been devoted to preparing the armpit, owing to the eczema which had followed the adduction of the arm. The patient was laid on his right side and he (Mr. Spencer) stood behind him on the left; the dresser held the left arm as much raised as he could so that the posterior surface of the arm looked upwards and forwards and at the same time pushed the humerus towards the operator. This was a primary feature of the method; the glenoid cavity and neck of the scapula could be thus pushed towards the incision and held there fixed by making use of the head of the humerus in its displaced position underneath the coracoid process. A semilunar skin flap was turned upwards over the acromion by making a curved incision which commenced over the middle of the spine of the scapula and ended over the posterior fold of the axilla. Then the upper border of the latissimus dorsi was freed, retracted downwards, and the posterior border of the deltoid was retracted upwards. The next step was to raise by means of a raspatory the teres minor and infraspinatus from their origin near their tendons so as to explore the axillary border and a small triangular area of the dorsum and neck of the scapula. That led to a good view of the origin of the long head of the triceps from the lower edge of the glenoid cavity and the axillary border of the scapula. He then began to cut away piecemeal a tough mass of tissue representing the posterior part of the capsule and to chip away the posterior rim of the glenoid cavity until he had reached the origin of the long head of the biceps from the upper margin. He had then the long head of the triceps below and the long head of the biceps above, both well defined at their origin but uninjured. Between these two tendons was a mass of fibrous tissue and fat representing the capsule, and remains of blood clot, some of which had become altered into melon-seed bodies, in the former joint cavity. No actual joint cavity remained, but a section under the microscope of a piece which had been cut away showed synovial membrane and greatly thickened subsynovial tissue. The rest of the thickened capsule was later excised in small bits, progressively with the removal of bone chips from the middle of the glenoid cavity, until the anterior rim which had come to form the posterior margin of the false joint below the coracoid process had been removed. When that was done the head of the humerus was exposed. Thus a cup-shaped cavity had been excavated between the origin of the biceps above and the triceps below and all the altered capsule had been cut away. A manipulation of the humerus by Kocher's method then caused the head to be reduced into the excavation. This manipulation without using force had been tried before but it was only after the complete removal of the anterior rim of the glenoid cavity, including the posterior border of the false joint, that reduction readily occurred. That a false joint had formed was further shown by the escape from it of synovial fluid whilst none was found at the site of the true joint. After reduction the head of the bone could be well inspected: its cartilaginous surface was unaltered; its muscular attachments were uninjured. When extension was made on the arm the head of the bone was only pulled downwards just enough to allow of the fingers being inserted between the head of the acromion. When extension was relaxed the head came into contact with the acromion. That was due to muscles and ligaments having shortened. The head could not be pushed further back than the excavated glenoid cavity on account of the tenseness of the subscapularis. In the excavated cavity the head rotated easily and the arm could readily be carried into the vertical position. On removing the retractors the muscles returned into place and as the head of the bone now filled the deepest part no wound cavity remained, so the skin was sutured without a drain. He had expected to meet with the dorsalis scapular artery, but he did not cut far enough down the axillary border to wound it. The whole plan of the operation had kept him far away from the circumflex nerve and of course from the large axillary vessels and nerves. The wound healed well; before the sutures were removed the arm could be readily rotated. As soon as there was firm union massage, passive movement, and electrical excitation were adopted. The arm could be raised easily to the vertical and the patient slowly regained the use of the limb in a way which was quite satisfactory considering his general debility. That method of treating old shoulder dislocations appeared to have the following advantages:—1. The joint was exposed without dividing any important structure and the muscles which had been drawn aside fell back into place, so that no wound cavity was left in which blood clot could collect nor was drainage required. 2. Through the incision could be removed the impediments to reduction, viz., the altered joint capsule, and the bone *forming* the posterior rim of the further possibility that the coagulability of the blood might be altered by the action of the trophoblast which seemed to possess the power of extending along vessel walls without producing clotting. The complete embryo measured 1·9 millimetres by 0·87 millimetre by 0·64 millimetre; these measurements corresponded with those ascribed to embryos between the second and third weeks.—Sir A. R. Simpson, Dr. W. Fordyce, Dr. A. H. F. Barbour, Dr. F. W. N. Haultain, Dr. J. Haig Ferguson, and the President discussed the paper, and Mr. Wade replied.

---

[3] See THE LANCET March 5th, 1898, p. 655.

[1] Archives of Ophthalmology, vol. xxxvii., No. 2.

---

[4] Transactions of the Clinical Society of London, 1895, vol. xxviii., p. 293.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of the above society was held on June 11th, Inspector-General Sir Herbert M. Ellis, K.C.B., R.N., the President, being in the chair.—Lieutenant-Colonel H. E. Deane, R.A.M.C. (retired), read a paper entitled "A Plea for a More Detailed Study of the Soldier's Heart," and presented each member attending with a copy of a series of respiratory-pulse curves on which the paper was based. Having been obtained from soldiers, professional gymnasts, acrobats, and dancers, these were analysed, attention being given to the phenomena of pulsus paradoxus, extra systoles, and the results of strain. A diagram—taken by means of an ortho-radiographic machine—of the heart of a soldier who was holding his breath was exhibited and it showed a marked diminution of all the diameters of the heart. Reference was next made to cases of disordered action of the heart in soldiers. It was asked whether it was quite certain that the equipment had nothing to do with the subject. Investigation as to the circumstances in which the men broke down, a graphic record of the cardiac conditions, and a detailed examination of men after marching or after a field day were advocated. The instruments by which the tracings were obtained by Lieutenant-Colonel Deane were exhibited.—In the discussion which followed it was generally agreed that too much significance had hitherto been attached to the occurrence of extra systoles and it was stated that candidates for life insurance had been rejected or charged extra premiums and men invalided from the Services unnecessarily on their account. An example was given of a man being found doing heavy work as a luggage porter a few years after he had been invalided from the Marines. Seamen of the Royal Navy were not found to be specially subject to heart trouble but the Marines, whose conditions of life were similar to those of the soldier, suffered. It was stated that in soldiers it was not uncommon to find post mortem a certain amount of general hypertrophy of the heart.—Dr. Mackenzie, Colonel Beattie, R.A.M.C. (retired), Lieutenant-Colonel W. B. Leishman, R.A.M.C., and the President were among the speakers.—In his replies Lieutenant-Colonel Deane suggested clothing and the hustling to which the soldier is subjected as elements in the causation of the condition.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on June 5th, Mr. Richard Lake, the President, being in the chair.—Dr. Andrew Elliot opened a discussion on the Causes of Unconsciousness by a paper dealing with the causes of insensibility, and secondly with the general methods of investigation which would be found of use. He emphasised the necessity of a clear idea of the various possible causes of unconsciousness in order that none might be overlooked and suggested a tabulation of the possibilities based on a *memoria technica*. Referring to the examination of an individual case, he urged a systematic method of procedure by a scrutiny of the following points in succession: (1) the history, if obtainable, of the case; (2) the general condition of the patient and the depth of the coma present; (3) signs of injury, especially cranial fracture; (4) any peculiarity in the breath; (5) the condition of the tongue and mouth; (6) the pulse, temperature, and respiration; (7) local paralyses or rigidities; (8) the general sensation; (9) the reflexes; (10) the eyes (muscles, pupils, cornea, and fundus); (11) the urine; (12) the stomach contents; and lastly, if necessary, an examination of the cerebro-spinal fluid withdrawn by lumbar puncture.—Dr. A. E. Russell continued the discussion and commented on the unconsciousness of epilepsy, pointing out that in some cases convulsions might be so slight as to escape notice or even be absent. In some cases of hysterical attacks the diagnosis from epilepsy was not easy, especially in view of the frequent complete absence of knowledge by the patient of what had occurred during the attack; the possibility of some of these attacks being really the sequel of unrecognised petit-mal had also to be borne in mind. As regards apoplexy, in children embolism, and in young adults syphilitic endarteritis had to be considered, whilst in older adults thrombosis from cerebral arterio-sclerosis and cerebral hæmorrhage were the chief factors. Thrombosis was more common than was usually suspected. The chief points in coming to a diagnosis were: the presence of premonitory slight and transient attacks; the frequent mildness of onset and the presence of a low-pressure pulse and dilated heart in cerebral thrombosis, as compared with the more violent onset, the deeper and more prolonged unconsciousness and the high blood pressure and hypertrophied heart, so commonly found in cases of cerebral hæmorrhage. The importance of accuracy of diagnosis was obvious in view of the different methods of treatment required in the two classes. The condition of uræmia was also considered. Catalepsy was a rare phenomenon but did occasionally occur. The unconsciousness met with in men working in deep wells and the holds of ships was also referred to. Dr. J. S. Haldane had shown that this was due to absorption of oxygen from the air leaving an atmosphere composed in the main of nitrogen. The danger of this was that the patient did not as a rule recognise his danger owing to the absence of marked dyspnœa or discomfort, and unconsciousness occurred very suddenly.

Reviews and Notices of Books.

Nothnagel's Practice: Diseases of the Heart. By Professor TH. VON JÜRGENSEN, Professor L. VON SCHRÖTTER, and Professor L. KREHL. Edited with additions by GEORGE DOCK, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, University of Michigan, Ann Arbor. Authorised translation from the German under the editorial supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. London and Philadelphia: W. B. Saunders Company. 1908. Pp. 848. Price 21s.

THIS work forms one volume of Nothnagel's "Encyclopædia of Practical Medicine" which is now being translated into English. The editor, Dr. Dock, remarks in his preface that although several excellent works upon diseases of the heart have appeared within the last quarter of a century in Germany yet none of them have been translated into English. This is especially strange when it is considered that many important contributions have been made by observers in that country to the normal and pathological anatomy of the heart and circulatory system, the methods of diagnosis, the pharmacology of cardiac remedies, and the application of non-medicinal measures to the treatment of patients suffering from affections of the heart. The volume now before us is a large one, and in it we find, to quote Dr. Dock's words, "the sound learning and wide clinical experience of Professors von Jürgensen and von Schrötter and the deep and broad training in anatomy, physiology, and pathology, as well as the excellent clinical observations of Professor Krehl."

Matters of interest brought out since the original was published have been added in brackets. These include American and English contributions, so that by this means the work is brought well into line with recent observations, which naturally increases the value of the book as a work of reference.

The first section of the book is by Professor Jürgensen and deals with Insufficiency (Weakness) of the Heart. An interesting account is given of the symptomatology of this affection, in the course of which some remarks are made on the development of dropsy which are well worthy of attention. The observations of von Lesser, Grawitz, and others are carefully considered and criticised. There is no doubt that one of the chief conditions for the production of dropsy is slowing of the circulation. Wherever the slowing is greatest œdema develops most early. On the other hand, there are other factors at work which are not so well understood. It has been shown that cardiac insufficiency is attended more often by dilution than by concentration of the whole blood. It is probable respectively. The third case was that of a family containing colour-blind individuals. Mr. Nettleship had examined all the available members, and of 33 males 14 were found to be colour-blind, and of 36 females only one was affected, and she slightly. There were 40 others in the pedigree who were either dead or inaccessible.

Lieutenant-Colonel H. HERBERT, I.M.S. (retired), read a note on Secondary (Parenchymatous) Xerosis. He drew attention to the part played by pannus in the development of xerosis after trachoma, and pointed out that old pannus rendered the corneal surface insensitive. Hence with both corneæ covered with pannus the blinking movements of the lids tended to be imperfect, and thus to lead to exposure of the globe. This appeared to be an important factor in the dryness which followed, for in such cases xerosis of the cornea and conjunctiva was often very marked when the cicatricial degeneration of the conjunctiva was much less advanced than in other old trachomatous cases in which the eyes remained moist and the corneæ clear. The exposure of the cornea rendered it more opaque and insensitive, so that the blinking movements might amount to only very infrequent and slight twitches of the lids. Similarly inactive lids were seen in India in a few cases of severe primary (epithelial) xerosis. In these cases the exposed cornea became not only opaque but pigmented, like the degenerate conjunctiva. Here the primarily defective reflex action of the lids seemed to be attributable to malnutrition only. Another factor in the production of cicatricial xerosis was the reduced transudation of fluid from the palpebral conjunctiva. If the upper lid were everted in any case of ordinary acute conjunctivitis a free flow of watery fluid was readily demonstrable from the exposed conjunctiva. But a similar flow was not obtainable from a cirrhosed or cicatricial conjunctiva, however much inflammation might be present.

Lieutenant-Colonel HERBERT also read a paper on Lower Corneal Plaques. These, he said, were slightly raised, feebly vascular, grey patches with rough surfaces, close to the lower margin of the cornea. Their opacity varied with their thickness. They were often of curious shapes and were mostly multiple and binocular. They were not very uncommon in India and appeared to be due to slightly defective closure of the lids, together with more or less chronic conjunctivitis, trachomatous or otherwise.

Mr. J. PRIESTLEY SMITH showed a small instrument, consisting of a series of lenses aranged in a frame, for use with the shadow test. The feature of the apparatus was the close packing of the lenses, about 16 of them being contained in a linear foot, which enabled very rapid examinations to be made.

Mr. LESLIE J. PATON showed a case with Connective Tissue in front of the Optic Disc.

Dr. F. W. EDRIDGE-GREEN exhibited an improved Lantern for Testing Colour-perception. There was an arrangement consisting of three slides in a vertical column, each slide being fitted with variously coloured glasses which could be brought opposite an aperture with an iris diaphragm.

Mr. J. H. TOMLINSON showed a Nernst Lamp Projecting Lantern.

Mr. SYDNEY STEPHENSON showed a patient with a curious Congenital Anomaly of the Iris.

Mr. G. W. ROLL showed a patient with Sky-blue Sclerotics, and also one with Double Papillitis.

Mr. A. O. HUDSON showed a case of Thiersch Grafting.

Mr. G. COATS showed a case of Exudation in the Retina.

EDINBURGH OBSTETRICAL SOCIETY.—A meeting of this society was held on June 10th, Professor W. Stephenson, the President, being in the chair.—Sir A. R. Simpson gave an account of his visit to the Gynæcological and Medical Societies of Japan and exhibited albums presented to him by the members.—Mr. Henry Wade and Dr. B. P. Watson made a communication on the Anatomy and Histology of an Early Tubal Gestation, with lantern demonstration. The gestation was one probably between the second and third week, and a complete picture of the case was obtained as over 1900 sections were made of the affected part of the tube and the other pelvic organs were obtained in a fresh condition at the necropsy. The patient, aged 30 years, had been subject to gastric disorder. On the night prior to her death she had sent for her medical attendant for slight abdominal pain and diarrhœa. She informed him that she had had a normal menstrual period two or three weeks previously. On the next afternoon she became rapidly worse and died before arrangements could be made for operation. At the post-mortem examination the abdomen contained a large amount of dark fluid blood with large clots in the pelvis. At the uterine end of the right Fallopian tube there was an almond-shaped swelling measuring a little over one centimetre in its long axis and of a dark prune-juice colour. It was covered with glistening peritoneum except over a small area about the middle, which was of a lighter colour, and the peritoneum was more opaque and lustreless, and in its centre a minute perforation was present from which blood oozed on gentle pressure. The right ovary showed no abnormality, but the left was enlarged and cystic, and there was a small fibroma growing from the junction of the left ovary and ovarian ligament. The uterus was enlarged, soft, and somewhat boggy to the touch; on section its cavity was lined by a thick decidua. The swelling on the tube was found to be situated in the isthmus and bulged more towards the broad ligament attachment than to the upper surface. The swelling measured 1·3 centimetre in length, 1 centimetre in breadth, and 1 centimetre in thickness. The rest of the tube, including the fimbriated end, appeared quite normal. Transverse sections of the tube on the uterine side showed no abnormality in the fibrous and muscular tissue. The villous processes of the mucosa were more numerous and complicated than usual and joined across the lumen to produce a net-like appearance on section, and the epithelium on these processes was swollen and in many places desquamated. The capillaries were engorged with proliferation of the endothelial lining and accumulation round the vessels of cells mainly of the small lymphocyte type. No diverticulum of the tube was evident. If one or two sections had been examined it would have appeared that there was a double channel in the tube, but on tracing this through other sections it was found to be due to projection of connective tissue proliferation into the tube. Similar appearances would be produced by folding and twisting a rubber tube. There was evidence of recent catarrh in both tubes but it was slight in the non-pregnant tube and the appearances might be accounted for by a post-mortem change. On the right side—the pregnant side—it was distinctly present, especially on the uterine side. Sections through the middle of the gestation sac showed the ovum with its villi filling up the whole interior of the tube and no lumen was visible. At either extremity of the sac the lumen was intact and the ovum was seen extending not along the lumen but in the muscular coat of the tube; that is, the ovum was growing on the tube wall; probably it had previously become imbedded there. The villi of the ovum were seen to penetrate and to destroy by the advancing trophoblast the muscular wall of the periphery of the tube in different parts; this was greatest near to the point of rupture. There was a well-marked decidual lining in the uterine cavity, consisting of compact and spongy layers. The only other situation in which true decidual formation was found was in the villous processes of the mucous membrane of the pregnant tube on the uterine side of the gestation sac, and of the interstitial portion; but no membrane, only a cellular reaction. It was entirely absent in the tube of the other side, in the ovaries, and in the connective tissue of the broad ligament. In sections through the middle of the gestation sac the chorionic vesicle, covered with epiblast and containing the embryo in its amnion, was well seen. There was a reaction on the part of the maternal tissues by hyperæmia and œdema, with blood extravasation and fibrin formation; that was for protection of the maternal tissues against the invasion of the advancing trophoblast. In one place the wall of a blood sinus had been destroyed by the trophoblast causing a large hæmorrhage into the ovum bed in the thinned out wall of the tube. This had weakened the tube and possibly as the result of muscular contraction of the remainder of the tube wall, the peritoneal coat of the tube had ruptured and intraperitoneal hæmorrhage had resulted. According to the view of Mr. Wade and Dr. Watson the decidua must be looked upon not simply as a suitable bed in which the ovum can bury itself but as a barrier laid down to prevent the too great destructive action of the trophoblast. The absence of any distinct decidual membrane in the tube wall would on this theory readily explain the frequency of tubal rupture. The rupture was very small and opened into a comparatively small vessel. Spontaneous arrest of the bleeding might have been prevented by the failure of the weakened muscular coat to contract, and there was the bleeding to stimulation was an excessive one. It must be admitted that greater care is now being exercised by medical practitioners in prescribing alcohol for their patients, and there are few who would now cavil at the author's plea that the practitioner in ordering alcohol should regard it as a drug and not as a beverage, and should exercise an equal care in its administration with that taken in regard to other drugs. Doubtless in the past the indiscriminate ordering of stimulants to invalids may have led to subsequent intemperance. To recognise that this is a possibility is to admit the necessity for care in this respect.

The remainder of the book is devoted to a review of the treatment of inebriety. The various "patent cures" are discussed and the commercial aspects of most of them are exposed. The author points out the unsatisfactory nature of the evidence on which the reputed cures are based, the absence of data as to the duration of the cures, and the probability that most of the rapidly successful cases are examples of dipsomania or periodic intemperance, in which after the bout is over remorse leads to a temporary improvement. He also deprecates the use of powerful and poisonous drugs in such treatments. A chapter on the inebriates homes and reformatories constitutes an eloquent plea for the support of these institutions and for more prolonged treatment of those admitted to them. Some statistics prepared by Dr. R. W. Branthwaite, the inspector under the Inebriates Act, are quoted, showing the large proportion of those admitted to such institutions who show evidence of mental defects. It is admitted that in some of these the mental deficiency existed before the alcoholism supervened. The author also expresses the hope that more careful methods of selection will eventually prevail; for, as he expresses it, "imbeciles, epileptics, monomaniacs, and idiots, though alcohol made, are as much out of place in a home for inebriates as they are in the prison cell, to which they are committed again and again." In the last chapter the care of the individual inebriate at home under the supervision of the medical practitioner is outlined and the view is expressed that no sane inebriate need be regarded as incurable.

The book is well written in simple but forcible style. It constitutes an earnest endeavour to promote national temperance and to deal with the problem of inebriety.

How to Nurse the Patient: a Handbook on Nursing for the Use of those in Charge of the Sick. Edited by J. COWAN WILSON, M.B., C.M. Glasg., D.P.H. Camb. Glasgow and Edinburgh: William Hodge and Co. 1908. Pp. 324. Price 3*s.* 6*d.*

THIS handbook on nursing is the combined work of medical men and trained nurses. The training of a nurse at the present time is carried out with method and completeness. Not only are the technical details carefully explained and demonstrated but the probationer is encouraged to take an intelligent interest in her work by means of lectures delivered by medical men on elementary anatomy and physiology and on simple medical and surgical facts which may help her in times of emergency. At the same time, it is emphatically insisted on that these lectures are not intended to enable the nurse to usurp the place of the medical attendant in any circumstances.

These principles are fairly well carried out in the volume now before us. The plan followed throughout the book is to deal simply with methods of nursing, leaving the treatment of the disease to the practitioner in attendance. Description and treatment of the various diseases have only been touched on in so far as they are of practical use to the nurse. At the same time, special attention has been given to symptoms which might readily occur in the absence of the medical attendant and which are likely to cause suffering and alarm. Although in most cases the advice given is perfectly trustworthy, yet in some instances directions are given which we should like to see altered in future editions. For instance, under the head of "Hæmoptysis," the emergency treatment is antiquated and of a nature which should not be left to the discretion of a nurse. A subcutaneous injection of 1-100th of a grain of ergotinine is recommended. This drug is now not used in cases of hæmoptysis by the best authorities. Ergot raises the blood tension, which is precisely the reverse of what is required to enable arrest of hæmorrhage to take place. Further, it would be a doubtful plan to allow a nurse to administer "a full dose of solution of morphine or laudanum" on her own responsibility. On the other hand, under the heading of "Pain," valuable information is given as to the significance of the chief varieties of pain and the simple methods which may be adopted for the temporary relief of this symptom until medical assistance arrives. The use of opium is indicated but information is given as to certain conditions in which it should never be used, and in regard to the employment of injections of morphine the proper words are added, "with the permission of the medical attendant." We agree with the remark in the preface, "It is of more importance that the nurse should be able to relieve pain or sickness, and manage insomnia or a high temperature, &c., than make a correct diagnosis." Nevertheless, there are distinct limits to the methods which a nurse may employ on her own initiative. We are therefore glad to see under the heading of "Sleep and Insomnia" the warning, "The nurse should avoid the use of hypnotics to procure sleep." The general directions given for the management of surgical and medical cases are good and trustworthy and a nurse will obtain much knowledge and useful hints by a study of this book.

These are very many advertisements bound up with this work with regard to which the following explanation is given in the preface: "The object of the book being, at least in part, to assist the Cottage Hospital Fund, affords an explanation for the numerous advertisements which appear." Further we read: "...... the proceeds of the sale of the book should go to the building fund of Blantyre Cottage Hospital." Nevertheless, although the object in view is most praiseworthy, a more careful selection of the advertisements would have been desirable. There are at least two which could with advantage be eliminated.

We may add that the book contains not only directions as to nursing medical and surgical cases as ordinarily understood, but also the duties of the nurse when in charge of infectious and obstetric cases, and also some useful hints on the feeding of infants are included.

LIBRARY TABLE.

The Anæsthetic Technique for Operations on the Nose and Throat. By A. DE PRENDERVILLE, Senior Anæsthetist to the London Throat Hospital, &c. With 19 figures. London: H. J. Glashier. 1906. Pp. 87. Price 3*s.* 6*d.*—Mr. de Prenderville emphasises the two following points in preparing a patient for an operation on the throat and nose: a preliminary nasal toilet and a preliminary cleansing of the mouth and teeth, with the object of avoiding an undue flow of mucus early in the operation and of reducing the risk of sepsis and of vomiting. In selecting the anæsthetic the one to be chosen is as free as can be from danger and from causing local congestion. In discussing the posture of the patient, the administrator is shown how to place *himself* in case he should be required to act also as sole assistant; he is also advised when about to anæsthetise with nitrous oxide gas if a gag is employed instead of a prop—a procedure saving several seconds—that the gag should be opened wide to minimise the risk of injuring teeth when the masseters are rigid. Nitrous oxide is also said to be contra-indicated for children under that there is some change in the distribution of the red blood corpuscles and that they are more numerous wherever there is retardation in the blood current or stasis. From this it should follow that, if there is no increased formation of red blood corpuscles, the number must be less than normal in those parts of the body which are not affected by the stasis. Further, it would follow that the quantity of hæmoglobin in the circulation—that is, the quantity of oxygen supplied to the tissues—must decrease in proportion as the stasis, the temporary exclusion of red corpuscles from the pulmonary circulation, increases. Serious injury to the functional power of all the tissues of the body would necessarily follow. Following on these and similar arguments Professor Jürgensen arrives at the conclusion that the details of the processes producing dropsy are not known. Negatively it may be said that the phenomenon is due to more than a mere alteration of pressure or nutritional change in the vessel wall, making the latter more permeable for the blood. Again, the peculiar properties of the capillary walls come into play; their activity is dependent upon the vital activity and hence on the nutrition of the individual cells of which they are composed. The manner, as well as the degree, in which these are injured probably varies at times, but at present, as before said, very little is known about the matter.

The second section of the work (also written by Professor Jürgensen) is concerned with a description of Endocarditis. The etiology, morbid anatomy, symptoms, diagnosis, prognosis, and treatment are discussed at length. The author maintains that endocarditis is always part of a general infection the severity of which determines the clinical course. He considers that the endocardium is never affected alone but that the entire heart takes part in the morbid process. The work of the heart may be interfered with by insufficient closure of the diseased valves, or as the result of the narrowness of their orifices, and also in consequence of the loss of power in the heart muscle, following lesions which affect this structure directly and which arise either from inflammatory or degenerative processes. Professor Jürgensen does not think that it is correct to regard endocarditis as a separate entity but believes that "pancarditis" will be the diagnosis of the future. Professor Jürgensen is also responsible for the third section on Valvular Disease, which is considered with the same thoroughness of detail as the preceding sections.

The section on Diseases of the Myocardium and Nervous Diseases of the Heart is written by Professor L. Krehl of Greifswald. The remarks on the "general principles to be observed in the treatment of heart patients" are particularly interesting. He points out that all therapeutic directions must be adapted in every respect to the patient's individual circumstances and must take in every detail of his mode of life. A good physician, after carefully diagnosing the disease in a given case, adopts a line of action appropriate to the patient's circumstances and personality. To do so the entire body and all its various functions must be taken into consideration. It is only by proceeding on these lines that satisfactory results can be arrived at. Professor Krehl's remarks on "cardiac fear and cardiac pain" are also worthy of note. It is well to remember that apprehensiveness and irritability are characteristic symptoms of disordered cardiac action and may be present when such symptoms as dyspnœa are absent. Fear is very frequent not only in sclerosis of the coronary arteries but also in myocarditis and the various other forms of muscular affections of the heart.

The last section in the book, that on Diseases of the Pericardium, is by the late Professor Schrötter of Vienna. In discussing the treatment of pericarditis due attention is paid to the operation of paracentesis. The author considers that the indications for such a procedure are: (1) when a large exudate does not show any tendency to absorption after a prolonged observation and after due trial of the means usually employed, and when the patient is more and more markedly affected by the disease; and (2) the vital indication, when the patient is threatened with death as the result of severe dyspnœa. Professor Schrötter points out that the results hitherto obtained cannot be said to be uniform, and it is perfectly natural that they should differ according to the presence of one or another primary disease responsible for the endocarditis.

We have formed a high opinion of the work as a whole. The forms of treatment recommended are not always those generally adopted in this country. For instance, we do not consider that sufficient importance is attached to the use of vaso-dilators in cases of cardiac insufficiency in order to lessen the peripheral resistance which the heart has to overcome. But those portions of the various sections dealing with the etiology and symptomatology of the various affections are most thorough in detail and scientific discussion. Our readers will find the diseases of the heart considered in a manner which is largely new to English readers, and a vast amount of information may be gathered by a study of the observations of the three authors who have recorded their experiences and conclusions. As a work of reference it will prove of great value and we cordially recommend it to our readers.

Sidelights on Alcohol and its Action on the Human Organism. By "MEDICUS ABSTINENS." With illustrations. London: Church of England Temperance Society. 1907. Pp. vi.–189. *Price* 2*s.* 6*d.* net.

THERE are few questions which have been more obscured by the wiles of the special pleader and polemic than those involved in the use and abuse of alcohol. That indulgence in intoxicating beverages even to a degree short of the conditions of intemperance and inebriety is calculated to bring about morbid changes in the human body and to lead to mental and physical deterioration is a fact which is only too patent to every practitioner of medicine. At the same time the bigoted attitude assumed and the exaggerated statements made in the past by some of the extreme partisans or abolitionists have tended to alienate the sympathies of many earnest people who, believing that alcohol has its uses, are in favour of the strictest temperance, but not of total abstinence. It is therefore pleasing to find a book written from the temperance standpoint dealing with the question in so temperate and practical a manner as the one before us. It consists of a series of papers reprinted from the *Temperance Chronicle*, the journal of the Church of England Temperance Society. They are written by a medical practitioner who it appears is a surgeon to a hospital and is in active practice, and they are primarily intended for the lay public. The earlier chapters are devoted to a brief consideration of thirst and an exposition in simple and clear language of the elementary physiology of the fluid exchanges of the body and of metabolism in general. Afterwards the pharmacology and toxicology of alcohol are described with especial reference to the effects of alcohol on body temperature and on the arteries. The conditions of arterio-sclerosis and of chronic Bright's disease are discussed in two separate chapters and the important part played by the abuse of alcohol in their production is strongly emphasised.

An interesting chapter is entitled "Alcohol in the Hospital." The author shows by statistics the lessened expenditure on alcohol in hospitals during the last two decades. He refers to the part played by Dr. Todd in replacing the indiscriminate bleeding which was formerly the routine treatment in so many diseases by the administration of stimulants, and insists that the reaction from describes his ingenious methods of obtaining records by means of the excursion of light rays from small electric lamps fixed to the jaw and illustrates his remarks with tracings thus taken. The last paper on Rheumatism and Chorea in Childhood is contributed to the Therapeutical and Pharmacological Section by Dr. L. G. Guthrie, and the discussion following it, in which Dr. Cecil Wall and Dr. D. B. Lees are reported at length, affords, *inter alia*, an interesting contribution to the controversy regarding the utility and dosage of salicylates in rheumatism.

Guy's Hospital Gazette.—The number of May 30th contains the second part of an interesting article upon some Aspects of French Medicine, by Dr. A. F. Hertz, in which he criticises the French method of examination of the chest with its habitual disregard of the stethoscope and bestows warm praise on the neurological teaching in Paris, particularly in the clinic of Babinski, whose explanation of hysteria the author fully accepts, including the doctrine that the hemi-anæsthesia occurring in that condition is frequently, if not always, induced by the suggestion of the observer.

St. George's Hospital Gazette.—The chief contribution to the May issue is an interesting memoir of Henry Gray, the anatomist, who achieved the Fellowship of the Royal Society at the age of 25 years and died only nine years later after having produced the text-book which made him famous. The article contains good reproductions of his portrait and of a letter of sympathy concerning his death written by Sir Benjamin Brodie.

London Hospital Gazette.—The number for May contains an excellent study in natural history, entitled, "Some Facts about the Cuckoo," which is enriched by reproductions of photographs depicting phases in the young bird's life which "P. H. B." is very fortunate to have secured. They should certainly find their way into the pages of some future work on ornithology.

Broad Way (Westminster Hospital Gazette).—The chief contribution to the number for May is an article on Spinal Anæsthesia, by Dr. V. B. Orr. A humorous interlude from the out-patient department from the pen of "C. I. V." includes this remark of a lady to the physician in charge, "Last time I come up with me chest, but this time I've come up with me insides."

St. Bartholomew's Hospital Gazette.—The number for June contains an account of the shooting range in the basement of the new buildings. It was opened on May 4th by the late treasurer, Lord Ludlow, who secured a bull's-eye in firing the first shot. In the same number Mr. D'Arcy Power contributes an interesting paper upon Early Surgical Consultations, in which he tells of the forerunners of the staff gatherings which form so well-known a feature of the routine of this ancient hospital.

The Edinburgh Medical Journal.—In the June number of this journal Mr. W. H. Battle recounts the various operative procedures devised for the treatment of femoral hernia and describes his own method which has proved very successful. Mr. J. Hogarth Pringle writes on a method of operation in cases of melanotic tumours of the skin; the growth is freely excised and the incision prolonged in the course of the lymphatic vessels, the glands being also removed with the tumour in a continuous strip. Mr. James Sherren contributes an interesting article on chronic neuritis of the ulnar nerve, due to deformity at the elbow joint, usually cubitus valgus; and Dr. Charles H. Mellard writes sensibly on the rôle of suggestion, hypnotic and other, in treatment. Dr. Alexander Don describes an easy method of excising piles without the use of special apparatus, a cork being inserted into the anus and the mucous membrane fastened to it by pins.

The Dublin Journal of Medical Science.—Under the title of "Some Unusual Pulmonary Cases" Dr. T. Gillman Moorhead records instances of idiopathic pneumothorax, of acute suffocative pulmonary œdema, and of staphylococcic pneumonia with small abscesses in the lung, secondary to pyelonephritis. A presidential address delivered by Dr. W. R. Dawson before the Section of State Medicine in the Royal Academy of Medicine deals with the relations between alcohol and mental disease. The author is inclined to commend the use of atropine as an adjuvant in overcoming the craving for alcohol and regrets that trial of hypnotic suggestion is not more often made. Dr. A. B. Mitchell deals with duodenal ulcer and calls attention to the occurrence of dilatation of the stomach in many such cases and to the relief of pain that may occur on first taking food.

The Scottish Medical and Surgical Journal.—Cases of traumatic asphyxia due to forcible compression of the thorax are not common. An interesting instance is recorded in the June number of this periodical by Sir George T. Beatson. The patient, a miner who was crushed by a cage, made a rapid recovery, but some optic neuritis supervened and it was feared that he would lose his sight. In a clinical lecture on various conditions affecting the skin Mr. Jonathan Hutchinson states his view that urticaria pigmentosa originates in bug-bites, and reiterates his belief in the piscine origin of leprosy. Dr. Byrom Bramwell analyses a series of 76 cases of poliomyelitis anterior acuta, and Dr. R. Dods Brown gives a brief account of the psychoses associated with influenza.

The Birmingham Medical Review.—The first of the Ingleby lectures for 1908, delivered by Mr. Christopher Martin at the University of Birmingham, is published in the May issue of this review. This lecture, which will also be found in THE LANCET of June 6th, p. 1603, deals with the dangers of uterine myomas and ends with an expression of opinion that operative interference is called for in the presence of serious symptoms rather than the old advice to wait for the occurrence of the menopause. In the same number appears the second of Sir James Sawyer's Lumleian lectures on Maladies of the Heart; among other points he writes in favour of the solid wooden stethoscope for auscultation in some conditions. Mr. A. Alison Bradburne records four cases of lesions affecting the optic tract.

The Medical Chronicle.—In the June issue is published the first part of an interesting article entitled "Opsonic Methods," by Dr. G. E. Loveday and Mr. Albert Ramsbottom. It deals with inoculations of tuberculin and of staphylococcic vaccine, presumably controlled by determinations of the opsonic index, though this is only recorded at the beginning of each case, its subsequent fluctuation not being noted. Hence the title of the paper seems somewhat of a misnomer. The results in each instance are estimated by the physician or surgeon in charge of the case, not by the inoculator. Dr. A. A. Mumford records three cases of Protracted non-assimilation of fat in children associated with defect in the biliary pigment but without jaundice. The probable cause was pancreatic defect, improvement occurring after administration of pancreatic extract, and in one case a well-marked "pancreatic reaction" (Cammidge) being obtained in the urine.

SOUTH AFRICAN CIVIL SURGEONS.—The sixth annual dinner of this association will take place on Friday, July 24th, at 7.45 P.M., at the Imperial Restaurant, Regent-street, when the chair will be taken by Mr. A. A. Bowlby, C.M.G. The Right Hon. R. B. Haldane, Secretary of State for War, will be present. It is hoped that those who wish to attend the dinner will communicate as soon as possible with Mr. C. G. Watson, 44, Welbeck-street, W. The price of the dinner will be 10*s.* 6*d.*, exclusive of wine.

four years of age and in acute tonsillitis and peritonsillitis. Ether, chloroform, and chloride of ethyl narcoses are passed equally carefully under review, indeed the minute directions given for the last leave nothing to be desired. The upright sitting position is treated with great clearness and the way to avoid dangers is pointed out, and the correct way to meet untoward occurrences is described, as well as the usual sequence of events during and immediately following anæsthesia.

Wintering in Rome. By A. G. WELSFORD, M.D., B.C. Cantab., F.R.C.S. Eng., &c., and G. SANDISON BROCK, M.D., C.M. Edin., M.D. Rome, F.R.S. Edin., Physician to the British Embassy in Rome. Second edition. London: The Health Resorts Bureau. 1908.—This excellent manual, as was pointed out in these columns,[1] had one defect and that was its too brief account of the water-supply in which Rome still holds the superiority that she has maintained over her European sisters from the early Republican era. In this second edition that defect has been fully remedied, its editors having diligently availed themselves of the best sources of information on the subject, beginning with the classic, "Analisi Chimica delle Acque Potabili della Città di Roma," executed as far back as 1884 for the Town Council by Professor Francesco Mauro, Dr. Raffaello Nasini, and Dr. Augusto Piccini, under the superintendence of Italy's greatest chemist, the Senator Stanislao Cannizzaro. Other and later analyses of quite recent date have also been studied with intelligence and care, so that the English-speaking reader, when resident in Rome, may have no hesitation in acting on the assurance that with her supply of 51,000,000 gallons of water per diem ("a more liberal supply than is found in any other city"), represented mainly by the Acqua Vergine, "a remarkably pure and clear water, well aerated, entirely without odour, and moderately hard (12·8°), with a constant temperature of 59° F.," Rome is better off in respect of this primary condition of life than any rival health resort in the world. A reperusal of the sections dealing with food and wine, choice of dwelling, outdoor exercise, and the avoidance of risks as to climate confirms us in the opinion which we have already given, that this manual for the winter resident in Rome leaves little, if anything, to be desired.

Home Nursing and Hygiene. By FLORANCE HUFTON-WINDUST (Diplomée), late Senior Lecturer on Home Nursing, &c., for the Surrey County Council; late Hospital Sister and Superintendent of Nurses. London: A. and C. Black. 1908. Pp. 122. Price 1*s*. net.—This little manual is intended for people with no training in nursing who have to take charge of sick persons in their own homes. It contains a straightforward and clearly written summary of the elements of nursing and though, of course, it cannot claim to be original the book fulfils a decidedly useful purpose. The temptation to include a symptomatological summary of various diseases has not been resisted but it has been kept within narrow limits, so that its readers are not likely to rely on it as a "family doctor" to the exclusion of proper medical advice. It is a pity that the section on "palpitation" follows immediately on the prominent heading "heart disease," as this conjunction may cause unnecessary alarm to nervous individuals suffering from functional heart trouble. But, speaking generally, the book appears to us to carry out well its purpose of instruction in the principles of home nursing.

A Text-book of Diseases of the Nose and Throat. By D. B. KYLE, Professor of Laryngology and Rhinology, Jefferson Medical College. With 219 illustrations, 26 in colour. Fourth edition, thoroughly revised and enlarged. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 797. Price 18*s*. net.—Professor Kyle has immensely improved on his previous editions and amongst the points of merit in the book may be mentioned the very good reproductions of photographs of various microscopical preparations of pathological specimens. The descriptions of the various diseases are in the majority of instances extremely good, and were it not for Professor Kyle's great desire to prove that the sulpho-cyanides when present in saliva are capable of working so many ills in nasal diseases the work would take a higher position. A great many of the operations described are extremely good, though there is practically no mention of Killian's operation on the frontal sinus, which we consider to be a grave omission. No doubt there is throughout the work too great a tendency to subdivision. With these exceptions Professor Kyle's book, which has already made for itself a position in rhino-laryngological literature, will now occupy a somewhat higher place on account of the greater completeness of his treatment of the subject.

The City of London Directory, 1908. London: W. H. and L. Collingridge. Pp. 1202. Price 12*s*. 6*d*.—The edition for 1908 of this directory is the thirty-eighth. The editor states that works of reference are generally published at the close of the year, but the issue of the "City Directory" is intentionally delayed to enable him to take cognisance of the numerous changes that always occur in the first three months. The section concerned with the local life of London gives a full list of members of the corporation, arranged alphabetically and also according to the wards which they represent; a list of the committees, a valuable feature which it is claimed will be found in no other annual; and a list of the members of the London County Council and of the committees, the Directory being the only work of reference that gives this very useful information. The City Companies' section summarises the history of each guild and gives a list of the 9000 liverymen. There are the usual alphabetical street and trade sections and a carefully corrected map in colours of the City of London.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine for May.—In the Clinical Section is an excellent paper upon Fatal Lymphocythæmia in Early Life, by Dr. J. Graham Forbes and Dr. F. S. Langmead, which contains a full study of 12 fatal cases of the disease and is illustrated with coloured plates of the affected organs. To the Electro-Therapeutic Section Dr. E. R. Morton contributes a paper on the Electrical Treatment of Atonic Conditions of the Digestive System, and the Epidemiological Section is occupied with an exhaustive report by Dr. J. F. R. Seheult on the Epidemic of Small-pox of Irregular Type in Trinidad from 1902 to 1904, an epidemic which caused so much trouble in its diagnosis. The paper is illustrated from photographs showing the skin lesions observed with startling realism. The Laryngological Section is devoted chiefly to reports of cases. In the Obstetrical and Gynæcological Section the pathology of ante-natal death is considered in a Case of Intra-uterine Death of the Fœtus occurring in Six Consecutive Pregnancies, with Observations upon the Importance of the Examination of the Fœtal Tissues for the Presence of the Spirochæta Pallida, in which Dr. H. Williamson and Dr. E. L. Holland support Schaudinn's claims concerning the specific nature of that organism in the causation of syphilis and the value of Levaditi's method in demonstrating it. The paper is followed by reports of cases by Dr. Herbert R. Spencer, Mr. Alban Doran, Dr. H. Macnaughton-Jones, and Dr. Kedarnath Das, whilst Dr. C. P. Longridge contributes a note on the Creatinin Excretion in Lying-in Women. The Odontological Section contains a Contribution to the Study of the Movements of the Mandible, by Dr. N. G. Bennett, in which he them or by secreting antidotal bodies? If certain fixed cells can, as seems proved, ingest bacteria, can they do so *proprio motu*, or do they need the stimulus or assistance of some substance present in the serum? Many are the questions awaiting solution: "multitudes, multitudes in the valley of decision." It is only by careful observation of clinical phenomena, conjoined with the arduous labour of research and experiment on the part of the laboratory worker, that the problems can be elucidated, and we must be grateful to all alike—to the clinician and the pathologist, to the critic and to the theorist—for aid in the great work that still lies before us.

---

[1] THE LANCET, April 27th, 1907, p. 1166.

The Lessons of Insanity.

THE application of the spirit and methods of the inductive sciences to the study of mind, which has been brought about very largely through the influence that psychiatry has exercised on normal psychology, has somewhat lessened the interest taken in the subjective symptoms of insanity. The hallucinations and delusions of the insane do not nowadays receive the same share of attention, are not recorded with the same detail, or analysed with the same minuteness as was customary when the principles of a purely introspective psychology were predominant. But though the eager investigation of the objective side of mind seems thus in some sort to have relegated the psychical facts to a less important place than the physiological facts which go with them or with which they go, these psychical facts are, of course, as essential to the positive psychologist as ever they were to the spiritualistic philosopher. Even the most strenuous believer in the superiority of the physiological standpoint in the investigation of the morbid mind must needs accept some part of his data from the subjective testimony of his patient: however clearly it be shown that a given hallucination is connected with a definite lesion of the cortex, or that a given emotional state is related to a definite condition of visceral disorder, the proof of the existence of these mental processes can only be furnished through the consciousness of the individual who perceives the hallucination or feels the emotion. On this account the psychical phenomena in insanity have necessarily as much importance for the materialist as they have for the spiritualist, and therefore the full and accurate recording of such phenomena is a matter which must be of equal moment to both. From this point of view a very special interest attaches to the accounts of their morbid imaginings which patients are sometimes able to give when they have recovered from their insane state. In many ways such autobiographical records are of higher value than the necessarily fragmentary and often deceptive descriptions of mental symptoms which are obtained in the course of the attack in response to the physician's queries; for the suggestive influence of the question, which so largely vitiates the accuracy even of sane testimony, is naturally far greater when exercised on the diseased mind where the questioner by some merely fortuitous intonation or turn of phrase may be all unconsciously awakening a whole train of new ideas or may be giving confirmation strong as Holy Writ to some fantastic product of the delirious mind. Of course, the retrospective view which the sane man takes of his insane thoughts has its own special chances of error, but these are different in kind, and for the most part so much less serious that they are more than outweighed by the peculiar advantages which belong to spontaneous testimony. Unfortunately the human documents of this sort which bear sufficient internal evidence of sincerity as to merit credence are comparatively few, and it therefore behoves us to welcome with gratitude any addition to their scanty number.

Such an addition, and one of no mean value, has been made by Mr. C. W. BEERS in the autobiography which he has recently published under the title, "A Mind that Found Itself."[1] The volume, which appears with a commendatory letter from Professor WILLIAM JAMES, relates the experiences of the author in the course of an attack of insanity which befell him when 24 years of age and which lasted through some three years, being characterised during the first two years by a condition of melancholic and persecutory delirium and during the third year by a state of sub-maniacal exaltation. As a contribution to our knowledge of the working of the insane mind the most valuable portion of the book is that which describes the feelings and ideas of the writer during the phase of depression. It is not, indeed, too much to say that the literature of insanity contains no more graphic and lucid account of the way in which the mind under the overmastering sway of a morbid emotional state interprets every impression in accordance with the delirious train of thought which that emotional state has begotten. This is, of course, no novel observation in the clinical history of insanity, but Mr. BEERS has delineated the process in his own mind so minutely and so vividly that his description will be something of a revelation even to those whom daily converse with the insane has familiarised with the strange subtlety of the distorted judgment in assimilating impressions to a dominant mood. The only fault to be found with this most fascinating picture of the insane mind from within is that the author has not sufficiently separated the record of his experiences from the statement of the inferences regarding matters both of theory and of practice to which these experiences have led him. The work would have gained, at all events in dramatic effect, if the unfolding of the series of delirious conceptions had not been too frequently interrupted by psychological comment and by criticisms of medical and administrative methods which, though in many cases just and valuable, might well have been relegated to another part of the volume. This intrusion of secondary questions is still more evident in the writer's account of his maniacal phase and detracts very much from its value—a fact which is the more regrettable because the literature of psychiatry is sadly lacking in records of the subjective side of states of emotional exaltation.

Passing now from the purely psychological aspect of Mr. BEERS's book to his strictures on present methods of treating the insane, we may note with pardonable gratification that the point on which he lays most stress is the enormous value of that principle of "no restraint" which has so long been an honourable tradition of alienist practice in this country. In commending this principle as the first condition for the rational treatment of the insane,

---

[1] London: Longmans, Green, and Co. Pp. 363. Price 7s. 6d. net.

THE LANCET.

LONDON: SATURDAY, JUNE 27, 1908.

The Defensive Arrangements of the Body.

OF all the problems of pathology none is more fascinating than that presented by the phenomena of immunity and resistance to infective diseases; indeed, this subject alone embraces a large portion of the field of modern medicine. The advances in knowledge in this direction which have taken place within the last few years are remarkable and hope has been continually aroused that at last we were on the point of discovering a mode of treatment which would enable us once for all to meet our parasitic invaders on something like equal terms, and which would ultimately abolish from the category of human ills many of our most virulent scourges. The success attending the use of diphtherial antitoxin led us to hope that similar antidotes might be prepared for all other microbial diseases. The discoveries which arose out of PFEIFFER'S observations on the fate of cholera organisms in immunised animals suggested another great mode of defence which might be exploited therapeutically. And most recently of all the successes obtained with vaccines consisting of dead bacteria, controlled by estimations of the opsonic content of the serum, have led sanguine experimenters to anticipate the inauguration of a medical millennium when the methods of the surgeon and the physician would alike be relegated to the lumber room, leaving a free hand to the scientific procedures of the beneficent inoculator. Yet as the wave of enthusiasm excited by each new discovery has passed away we have been reluctantly obliged to confess that, while definite gains have in every case accrued, we are yet only a little nearer to the goal of complete knowledge, for the field of employment of the new remedies is sadly limited after all. There are more things in heaven and earth than are yet dreamt of in our pathology, and it is at least probable that we have so far only touched the fringe of the great problem of immunity, the most important factors in which have still to be discovered.

The thoughtful address delivered by Professor W. WATSON CHEYNE before the Society for the Study of Disease in Children, which appears on another page, calls attention to a number of peculiar phenomena in the defensive arrangements of the body which are not satisfactorily explained on any of the existing theories. Why are children more susceptible to certain infections than adults, and less so to others? Why are certain tissues prone in early years to suffer from the attacks of particular germs, while in later life other parts of the body are more often the seat of the disease? The pneumococcus seems on the whole more able to establish itself in children than in adults: it attacks not only the lungs but serous membranes and joints. Yet pneumonia is more fatal in adults, especially in those over 40 years of age, than in the young. The gonococcus is also specially virulent for children, yet it does not in them produce the articular troubles from which older persons may suffer, although joint disease due to other germs is notoriously common in the young. The reason for these differences is quite obscure. The tendency of the skin of children to be the seat of abscesses and of impetigo, while boils are rare at this period of life, may perhaps be explained by the delicacy of the outer epidermis; but can the tendency of ringworm to die out spontaneously after puberty be similarly explained? The latter event seems rather to point to an alteration in the chemical environment of the fungus which stops its further growth. Yet ringworm of the body is not unknown in adults. But if children are more liable to most infections than their elders, the latter have compensating troubles. In them the processes of repair are less active and the power of recovery is less. Acute illnesses are thrown off with difficulty; slighter maladies tend to become chronic rather than to disappear. In the skin slight irritation may give rise to most rebellious eczema which persists in spite of remedies which in youth act on it like charms. In the joints trifling injuries too often set up permanent lesions which result in serious crippling. What is this mysterious recuperative force which we can recognise but not identify? It can hardly be the same as the tendency to growth, though to some extent it may coincide with it, for it is in rapidly growing parts that some infectious agents especially tend to establish themselves—witness the suppurative lesions of the epiphysial cartilages in children. Is it in some way dependent on the influence of the nervous system? The similarity between some chronic senile changes in joints and the acuter lesions described by CHARCOT might seem to support such a view, and Professor CHEYNE points to the interesting researches of Mr. G. L. CHEATLE on the limitation of certain diseases to areas supplied by particular nerves as additional evidence of such an influence. The part played by mental states and emotions in modifying the course of diseases is also beyond doubt. Yet of the nature of this nervous influence we know nothing.

As to the exact mechanism which is brought into play in the defence of the body against infective germs we have already alluded to the antitoxic and bactericidal agencies which are involved. The fluids of the body and the leucocytes are now proved to possess properties which aid us in our fight with bacterial invaders, and we know that they act not only separately but as necessary allies in the process of phagocytosis. But behind these agencies there is the great body of tissue cells, and Professor CHEYNE states his opinion that "the essential resisting power of a part as regards local infection lies in the tissue cells rather than in the adventitious leucocytes which come into it subsequently." That this dictum is true it seems impossible to doubt, for how else can we explain the curious features of localisation of certain infections in particular tissues and organs? The muscles are seldom affected by tuberculosis, the lungs almost invariably when the disease is at all generalised. Yet both parts are bathed by the same blood stream and are thus in contact with the same serum and the same phagocytes. Of this cellular resistance, again, we know practically nothing. Is it a mere passive power of withstanding bacterial toxins, or do the cells actively combat the germs by destroying maxillæ. The effect on the bones is seen in two regions—namely, in that of the premaxillæ and the developing molars. In nasal obstruction the function of the nose is in abeyance, the muscles of the nostrils being functionless; the result of this is a marked arrest in the growth of the premaxillary portion which shows itself in crowding of the deciduous incisors and subsequent crowding of the permanent incisors. The effect on the growth of the permanent molars is due to the lack of expansion of the antrum. Dr. A. KEITH has shown that growth of the maxilla and the expansion of the antrum are closely related. It therefore follows that anything that interferes with the orderly expansion of the antrum must exercise a prejudicial effect on the growth of the part of the maxilla containing the developing molars. This interference is marked in nasal obstruction, with the result that there is a lack of growth of the posterior part of the bone and a corresponding crowding of the molars. So marked is this that the first permanent molars will in erupting produce absorption of the posterior part of the second deciduous molar and so occupy an abnormal position in relation to the lower teeth. A further point to be remembered is that the growth of the mandible is correlated with that of the maxilla, and as Mr. J. G. TURNER has shown the arrangement of the teeth in the arch is mainly due to the growth of the bone. These facts are sufficient to show that in considering the cause of any abnormal arrangement of the teeth the relation of the body of the bone to the tooth must be considered and a classification should be based on etiological lines. This point seems to us to be ignored by those who consider that occlusion is the fundamental principle of the treatment of irregular teeth, while a weakness of those who follow the system of treatment advocated by Mr. HIGHTON in the classification of their cases must be noticed. The first molar is chosen as the key to occlusion, and there might be something to be said for this if it could be shown that the position of this tooth to the rest of the bone was constant; but it is not, and only too often we find that though the molars are in *correct occlusion* they are displaced forward in both jaws owing to interruption with growth. In brief, the condition seen in the majority of cases is a crowding of teeth due to want of growth of bone; the normal relationship between teeth and jaws does not exist.

Nor are we satisfied that the method of treatment advocated under the name of "orthodontia" effects its purpose, while we think that the purpose is based *upon errors in conception*. In the operation, which consists in making the teeth assume a larger arch by means of various mechanical contrivances, the crowns are mainly affected, the roots of the teeth still retaining their former crowded position. It seems to us that this treatment, though often alluded to as quite modern, was introduced at least 25 years ago and was much practised with results which to a great extent might have been anticipated—namely, a relapse of the teeth to their former position, in addition to after-results on the soft tissues of the prolonged use of mechanical contrivances which the treatment by expansion necessitates. The paper by Mr. COLYER, although not covering the whole question of the treatment of irregular teeth by extraction, is sufficient to show the results that can be obtained in the treatment of prominent teeth by extraction, a method which would appear more rational inasmuch as it is founded on the relation of the teeth to the bone. That timely interference by the extraction of teeth will reduce the amount of mechanical treatment to the minimum seems to be recognised generally, and that permanent results ensue is not challenged. This being so, the uncertainties of the other treatment would seem to condemn it. The claims made that extraction of the teeth for irregularity tends to abnormal facial expressions cannot be substantiated and from an æsthetic point of view treatment by intelligent extraction gives excellent results. Thousands of patients testify to this by their countenances when looked at and by their jaws when these are examined. As far as the treatment of irregularities of the teeth is concerned, having regard for the well-being of the organism, extraction carried out intelligently is to be preferred to methods necessitating the prolonged use of mechanical contrivances. A functionally healthy mouth is more likely to be obtained the less the teeth are interfered with by mechanical means.

Annotations.

"Ne quid nimis."

THE ROYAL COLLEGE OF SURGEONS IN IRELAND AND THE UNIVERSITIES BILL.

THE Prime Minister, having been approached on the subject, consented last week to receive a deputation consisting of the following Members of Parliament who desired to represent to him the claims of the Royal College of Surgeons in Ireland to a grant from Government to help to maintain the medical school of the College, which, as our readers have already learned from our columns, will be placed at a serious disadvantage by the State-aided competition about to be set up by the new medical school in connexion with the new university in Dublin: Right Hon. Sir Edward Carson, Right Hon. James H. Campbell, Mr. S. H. Butcher, Sir William Collins, Mr. Cecil Harmsworth, Dr. A. E. W. Hazel, Sir Joseph Leese, K.C., Right Hon. Walter Long, Mr. Ramsay Macdonald, Sir Philip Magnus, Mr. J. C. O'Donnell, Mr. R. W. Perks, Mr. H H. Raphael, Mr. Duncan Schwann, Sir Albert Spicer, Bart., Sir John Batty Tuke, and Sir George White. Mr. Asquith received the deputation at the House of Commons on June 16th. Sir Edward Carson introduced the Members who were accompanied by the President of the College, Mr. John Lentaigne, the Vice President, Mr. R. H. Woods, and the ex-President, Sir Henry Swanzy. The President stated the grounds upon which the Council of the College rests its claim. Mr. Butcher, Sir William Collins, Sir John Batty Tuke, Sir Albert Spicer, Sir Edward Carson, the Vice-President, and Sir Henry Swanzy also spoke. Mr. Asquith replied in sympathetic terms with a promise to give the matter the fullest consideration, and it is to be hoped that he will be as good as his word. Prime Ministers, when they consent to receive a deputation, can hardly dismiss their petitioners with other than friendly promises, but the matter of the Royal College of Surgeons in Ireland is urgent. On Friday, during the discussion of the Irish Universities Bill in Standing Committee, Mr. Birrell intimated his intention of leaving the relations of the Royal College of Surgeons in Ireland with the new university in Dublin—if any were established—to be dealt with by the senate of the new university, on the ground that the College was not desirous of affiliation so much as of a Government grant. This may be so; but we trust that the

Mr. BEERS rightly emphasises its connexion with a larger truth which, though it is accepted as a commonplace, has yet to find its full recognition in practice—the truth, namely, that psychiatry is a part of medicine and that its progress in the future depends on its sharing in the vivifying movement of general medical science. And here we may note as a striking and significant fact that the conclusions to which his subjective view of insanity thus led this singularly acute and observant patient are precisely the same that have been recently urged on the attention of the public by the alienist physician whose name is most intimately associated in this country with the advocacy of objective methods in the study of mind. Dr. HENRY MAUDSLEY has told us that one of the chief motives which have prompted his generous offer to endow a hospital for mental diseases in London is the desire "to break down the unfortunate isolation from general medical knowledge and research in which the study and treatment of insanity remains." It is assuredly eloquent of much that the patient who has seen insanity from within and the psychiatrist whose life has been devoted to studying it from without should thus be at one in the belief that the treatment of the insane will be effectual and humane in proportion as it is guided and inspired by the same principles that have guided and inspired the application of medical science to ordinary physical disease. And if psychiatry thus stands to gain by being brought into closer touch with general medicine, it is no less certaint that medical culture must profit by the training which a scientific study of diseased mind is well fitted to impart. The value of that training and the aid which it gives to the apprehension of the vital issues in the biological and bio-social problems of gravest moment to humanity have been amply shown in the writings of workers in this branch of medicine. To quote a specific example it would suffice to glance through the pages of the modest volume which has just appeared from the pen of the distinguished physician to whom we have referred above.[2] It would be hard to name a more temperate and lucid criticism of the theories that agitate the world of biology than that which Dr. MAUDSLEY has compressed into his brief essay on "Heredity, Variation, and Genius"; while as an example of what the philosophic physician can contribute to the analysis of æsthetic quality and psychological characterisation in literary art the study on "Shakespeare Testimonied in his own Bringingsforth" is entirely admirable. If we may assume that these writings are in some degree the results of the discipline of psychiatry we shall augur well of its wider influence in medical education.

The Correction of Irregularities of the Teeth.

IN the present issue we publish two articles, one by Mr H. C. HIGHTON and the other by Mr. J. F. COLYER, bearing on the treatment of abnormal positions of children's teeth. The subject is of great interest to us all, and especially to the general practitioner, inasmuch as he is often consulted by parents in such cases, while the public has begun to find out that when more than one opinion has been sought totally divergent methods of treatment may be suggested. The last 30 years have seen a great increase in the number of individuals presenting a crowded condition of the teeth and attention has been concentrated on remedy of the deformity, with the result that a method of treatment has been adopted in some schools which appears to many observers to be to a great extent empirical. Within the last decade a theory has sprung up that the fundamental principle underlying the correction of irregular teeth is an understanding of the normal occlusion of the teeth. These views are set forth with clearness and in detail by Mr. HIGHTON in his article, where it will be noticed that the classification of the various deformed arches and jaws centres around the position of the first molar tooth. Normally, the maxillary molar should occlude with the posterior two-thirds of the mandibular tooth, the outer cusps of the upper tooth overlapping those of the lower. Three classes of malocclusion, to use Mr. HIGHTON'S term, are recognised—the first in which the position of the molars is normal, the second in which the maxillary tooth is occluding too far forward, and the third in which the mandibular tooth is occluding too far forward. By far the larger number of cases of irregularity met with belong to the first class. No consideration is taken in the classification of the position assumed by the irregular teeth, whether protruding, rotated, instanding, and so on. The treatment aims at the restoration of normal occlusion, and the principle underlying it is the "expansion of the arch," though how far the arch is really expanded will be seen to be doubtful.

In order to criticise this method of treatment it is necessary to consider briefly some elementary facts connected with the development and the growth of the jaws. If the skull of a child about the age of four years be examined it will be noticed that the developing permanent teeth are situated in the substance of the bone in an irregular manner. In the maxilla the permanent incisors are posterior to the deciduous teeth, the lateral incisors being as a rule in a plane posterior to that of the central. The premolars are embraced by the roots of the deciduous molars and the canine tooth lies high up in the nasal process in a plane external to the other teeth. The first permanent molar is situated in the tuberosity of the bone, with the occluding surface looking outwards and backwards, and above this tooth is the second molar with its occluding surface looking still more backwards and outwards. A somewhat similar crowded arrangement exists in the mandible. In other words, the growth of the teeth precedes the growth of the jaw, and in order that the teeth when erupted may be arranged in a normal manner it is necessary that orderly growth of the jaw should continue up to adult life. If this orderly growth does not take place, then we find that the teeth appear in the arch in an irregular manner. There would seem to be two main factors on which the growth of the jaws is dependent—viz., the proper carrying out of the function of mastication and nasal respiration. Much importance is placed by many on the former, but it is probable that on the lack of nasal respiration we must look for the main factor that retards the proper growth of the jaws, and the earlier the advent of nasal obstruction the greater will be the interference with the growth of the suddenly increase in glycosuria and symptoms of coma may follow. The oatmeal may be taken as a thin soup or gruel, or it may be made more palatable by making it into masses like meat balls or sausage cakes and frying them until brown on the outside. An explanation of the value of the diet is not easy. The 250 grammes of oatmeal contain about 150 grammes of starch. It is well known that a too rigid exclusion of carbohydrates may lead to acidosis and coma. Possibly the starch of the oatmeal may furnish the oxygen molecule that is needed for the process of oxidation by which oxybutyric acid is converted into diacetic acid, acetone, and finally into water and carbonic acid. Perhaps one kind of starch, such as oatmeal starch, is better tolerated than another. In some of the cases under the oatmeal diet the substitution of another carbohydrate, such as cane sugar or wheat starch, increases the glycosuria. When Dr. Herrick began to try von Noorden's treatment he was very sceptical. He doubted whether the stomach would tolerate from 20 to 50 monotonous and far from tempting meals. He was unable to understand the disappearance of sugar from the urine when such large amounts of starch were given and the statement that severe cases were benefited while mild cases might be made worse seemed paradoxical. But the good results astonished him. The following is an example. A man, aged 37 years, had neuralgic pains in the back and a small ischio-rectal abscess. He had not lost weight or noticed polyuria, but for several years he had drunk water freely and was subject to boils. The urine in the 24 hours amounted to 1800 cubic centimetres and contained 108 grammes of sugar. Under the ordinary diabetic diet with two slices of bread daily the sugar fell to 98 grammes. Under the oatmeal diet the sugar in ten days fell to 1·5 grammes. Meat and vegetables were added and in a few days the sugar disappeared. In the severe form of diabetes of the young the results were gratifying. In the last 12 months Dr. Herrick has seen four cases of typical diabetes in girls under the age of 17 years. Some improvement took place under a strict diabetic diet, but there remained much thirst, polyuria, and glycosuria, and the patients seemed likely to go the usual way of the youthful diabetic. In each case the response to the oatmeal diet was prompt and in three the glycosuria disappeared for a time.

---

[2] Heredity, Variation, and Genius: with an Essay on Shakespeare. By Henry Maudsley, M.D. London: John Bale, Sons, and Danielsson. Pp. 224. Price 5s. net.

HOLIDAY PRECAUTIONS.

THE season is with us when people begin to discuss the question of where to go for a holiday and great railway and steam shipping companies are making a point of the special inducements which they are able to offer to the public in the way of health resorts and trips. There are guides and pamphlets innumerable and so much are the convenience and comfort of the would-be traveller studied that even a list of farmhouse lodgings, apartments, board and residence, and so on, is published and sent to him gratis with the view of relieving him at any rate of some of the anxiety which the choice of a holiday entails. He is informed where good golfing, fishing, shooting, and bathing may be had; he is further instructed as to the accommodation which a given house offers and as to the distance from station and other particulars, all of which, of course, are interesting enough and of more or less moment. Of the greatest moment, however, are the questions relating to the sanitary condition of such places and the fitness and adequacy of the water-supply for drinking purposes. Yet these questions are seldom faced until the premises are decided upon—until, in fact, they come to be occupied. At all events it is only occasionally if at all that any reference is made in the lists of lodging-houses to matters concerning water-supply and the general sanitary arrangements of the houses offered as tempting temporary homes for the person seeking holiday. In the absence of any trustworthy information on these heads he may be plunging himself and his family into a veritable death-trap. It must not be forgotten that, as a rule, the sanitary conditions of our cities and towns are satisfactory and the water-supply abundant and pure, conditions which often enough are hard to secure in the remote seaside or country village. Further, the mysterious immunity conferred upon the inhabitant who perhaps has all his life been drinking impure water is not enjoyed by the visitor. Instances are not wanting of enteric fever breaking out amongst soldiers on the march through drinking typhoid-infected water and yet the same water had been consumed by the natives for years without any harm resulting. The boy who lives over the insanitary stable is often healthy enough, but this method of living suddenly introduced to a person used to a carefully guarded sanitary environment might prove to be a serious menace to his health. People sometimes come back from their holiday with a septic throat and often the explanation of its origin is found in the defective sanitary conditions of the lodgings which they occupied. It is a pity that some scheme cannot be introduced by which a guarantee so far as that is humanly possible could be supplied to the effect that the boarding-houses, apartments, and so forth, in seaside and country places are in good sanitary condition and that the water-supply above all is free from suspicion. As it is, money is often wasted and the health prejudiced by a holiday spent under insanitary conditions, to negative which no amount of good sea or country air can suffice.

THE CUTANEOUS REACTION TO TUBERCULIN IN CHILDREN.

Von Pirquet recently described a reaction characteristic of tuberculosis which is obtained on scarifying the skin and inoculating a minute quantity of tuberculin. The site of inoculation becomes red and swollen and within 24 hours a small papule develops. In healthy subjects even a slight reaction is exceptional. Subsequently Calmette described a reaction obtained on instilling tuberculin into the conjunctiva which in consequence of its simplicity and trustworthiness eclipsed the cutaneous reaction and in a remarkably short time became popular throughout the world. But later experience showed that the conjunctival reaction is sometimes followed by severe conjunctivitis and ulceration of the cornea. At the meeting of the Société Médicale des Hôpitaux of Paris on May 15th M. J. Comby read an important paper on the cutaneous reaction in children. He extolled this reaction and claimed for it the advantage over Calmette's reaction of complete innocuousness. He ascribed its want of popularity to the fact that its method of use (the number of scarifications of the skin, their depth, and the dose of the tuberculin) had not been laid down definitely. He has elaborated a method which has the advantages of complete innocuousness, ease of execution, and certainty in diagnostic indication. He uses the 1 per cent. solution of tuberculin of the Pasteur Institute, which is also used for the oculo-reaction. Instead of scarifications, which are a little painful and to which patients object, he makes three pricks with the vaccine lancet in the deltoid region, telling the patient that he is going to vaccinate him. On the next day and on the day after that he observes the result. If there is no reaction only traces of the pricks can be seen—three small black spots without surrounding redness. If the reaction is positive, after 24 hours, perhaps a little later, there is a more or less intense redness around the pricks. This is followed by papules which last from eight to ten days. Several degrees of reaction can be distinguished: (1) slight redness, simple erythema; (2) red papules, papular erythema; (3) red papules with vesicles; (4) red papules with bullæ; and (5) red papules with central eschar and a ring of vesicles resembling

College will not be left stranded between the two courses and subjected thereby to cruel rivalry. If no grant comes because the senate may later devise some satisfactory scheme of affiliation, and if no plan of affiliation materialises because it is understood that the College would prefer a grant, the position of the College will be a very *difficult one. Why need either the Government* or Mr. Birrell, as spokesman for the Irish Universities Bill, remain longer silent?

LABORATORY TECHNIQUE AS A CAUSE OF FAILURE IN THE SEARCH FOR THE BACILLUS TYPHOSUS.

NEGATIVE results so often attend the search for the *specific bacillus typhosus even when there is no doubt that* the water-supply is the *fons et origo mali* that any suggestion which is likely to remove this reproach from bacteriological methods should be of the utmost value. In a paper recently sent to us by Dr. D. Rivas, bacteriologist to the laboratories of the Department of Health of the Commonwealth of Pennsylvania, University of Pennsylvania, Philadelphia, he *records an occasion* when he *chanced to compare* the general count of bacteria per cubic centimetre in the same water on plain neutral agar and litmus lactose agar with the result that he found that the litmus agar exerted a very decided restraining action on the growth of bacteria in water in general. At the present time litmus lactose agar culture medium is generally used as a differentiating agent, the bacillus coli producing a pink colouring and the bacillus typhosus a violet or blue colouration. The Parietti solution (hydrochloric acid and phenol) used in many laboratories is subject to criticism also. In the experiments in some *instances no colonies grew on litmus* lactose agar plates, while *from 100 to 1200 were present on plain agar.* In a closer study of these results it was suspected that such restraining action was common only to a certain kind of bacteria of no importance in the bacteriological examination of water from a sanitary point of view, as stated by the advocates of this medium. In extensive experiments with 24 and 48 hours old bouillon cultures of bacillus typhosus and bacillus coli, diluted in sterile water, made simultaneously on plain and lactose litmus agar, it was found that in general the number removed by litmus agar was about 34 *per cent. for bacillus typhosus* and about 30 per cent. *for* bacillus coli. The next question was whether the litmus could be more detrimental to a certain form of bacillus typhosus and bacillus coli—that is, whether it would be possible that in the life-cycle of this organism there might exist a certain age, the very young or the very old form, at which they were more *sensitive* to the litmus; and with this point in mind another series of experiments was made with bacillus typhosus and bacillus coli after two, three, four, six, 12, 24, and 48 hours, as well as after *five*, ten, 15, and 20 days and after one month's incubation at 37° C. and also at room temperature of bouillon cultures exposed to diffuse daylight. It was found that the removal by the litmus after from one to five days was 60 per cent. for bacillus coli and 65 per cent. for bacillus typhosus, from 10 to 15 days it was about 80 per cent. *for bacillus coli* and 90 per cent. for bacillus typhosus, and from 15 to 20 days or one month of incubation it was 95 per cent. removal for bacillus typhosus. Further, one to *five* days old cultures showed *from one* to eight bacillus coli and ten to 350 bacillus typhosus colonies per cubic centimetre on plain agar and none on litmus agar; from *five to* ten days there were samples which showed from 10 to 18 bacillus coli and eight to 560 bacillus typhosus colonies per cubic centimetre on plain agar and none on litmus agar; from 10 to 15 days samples gave as many as 6000 bacillus typhosus colonies per cubic centimetre on plain agar and none on litmus agar. And *finally, from 15 days* to one month old cultures there were samples giving from 4 to 20,000 bacillus typhosus colonies on plain agar and none on litmus agar. The addition of 1 to 2 per cent. Parietti's solution and the amount of litmus tincture added to the medium were in direct proportion to its germicidal action on both organisms. Ordinary temperatures and exposure to diffuse daylight were more detrimental *to* bacillus *coli* and bacillus typhosus cultures. Von Drigalski and Conradi and Endo and other methods also have been investigated and they have *shown the same* germicidal action as litmus and Parietti's solution. These experiments show, Dr. Rivas thinks, in the most positive manner the inaccuracy of our present technique and methods in the bacteriological examination of water and also show the gradual degeneration of bacillus typhosus and the detrimental action of litmus and Parietti's solution upon the culture as it grows older. Such experiments demonstrate possibly the cause of failure in the detection of this organism in water. If such degeneration of bacillus *typhosus takes places under favourable* conditions for its life, there is good reason to believe that it will be greater in water; and the negative results *which usually accompany a search for the bacillus typhosus* in water supplied to a community where an epidemic of enteric fever has just broken out may, in the light of these results, be due to the fact that the organism is present at such a phase of its life cycle that it easily yields to the detrimental effect of litmus and Parietti's solution. This degenerated phase may, of course, be *due to the biological* processes in water. From the above results Dr. Rivas concludes not only that the present methods are at fault but also that by using litmus and Parietti's solution or the von Drigalski *or* Endo medium *it* would seem as if the work carried out under the most exact technique was devised to arrive at a negative result. This is especially the case for *bacillus typhosus. No doubt as a means* of differentiation all the above media are of more or less importance, but their value as to the isolation of this micro-organism from *water he believes to be most uncertain.*

OATMEAL DIET IN THE TREATMENT OF DIABETES.

IN 1903 von Noorden *advocated in certain cases* of diabetes a *diet* consisting daily of from 250 grammes of oatmeal, from 250 to 300 grammes of butter, and 100 grammes of some vegetable albumin. For the last six to eight eggs, or the whites of eggs, may be substituted. The oatmeal is cooked thoroughly in water for about *two hours* and *the butter* and *eggs are* well stirred in when the oatmeal is nearly cooked. Salt is added to suit the taste. This method of treatment has received *little notice*, but in the *Journal of the American Medical Association* of March 14th Dr. James B. Herrick has reported some remarkable cases in which it appeared to be valuable. Von Noorden claims *that in many cases of severe* diabetes, especially those in which the ordinary strict diet fails to rid the urine of sugar and when the persistence of acetone *bodies in the urine and other symptoms cause* fear that coma is impending, this *diet* will remarkably diminish the glycosuria and will cause the acetone bodies to disappear. *Further, an increased* tolerance for carbohydrates develops and an amount of starch which before would have increased the thirst and saccharine polyuria is now taken with benefit. He does not claim that the milder *forms of* diabetes are benefited; indeed, they may be made worse. In the severe cases, too, the diet *sometimes fails, so* that *selection* of cases is necessary. The diet is to be maintained *for one* or two weeks and then the ordinary diabetic diet—*i.e.*, a proteid and fat diet with *sufficient carbohydrate to prevent* acidosis—*is to* be resumed gradually. *If it is* resumed in the territories belonging more directly to the Crown but also in those of the ruling chiefs of the native States, in which the erection of female hospitals has been encouraged, and advice has been given and lady doctors have been provided on request by the chiefs to the head committee. The natives of India evidently believe in the art of healing as taught by English medical men and women. But the benefits bestowed through the knowledge of our English medical science are not the only good results; through the influence of the female medical practitioners employed the rigid rules of seclusion as regards Indian females are gradually becoming relaxed, the lifelong seclusion of married women is no longer so strictly enforced, and under the improved state of affairs some of the highest Indian ladies are now receiving even male visitors. What a blessing this breaking down of the deadening seclusion must be to these people who have hitherto been practically prisoners in their own homes. Dr. D. N. P. Datta pleaded eloquently at the annual meeting of the friends and supporters of the North India School of Medicine for Christian Women at Ludhiana for the greater liberty of the native women of India, so that they might enjoy the same blessings as their enlightened European sisters. He spoke of newly married girls who during their first year of married life had longed and yearned for the old outdoor life with its sight of birds, flowers, plants, and the expanse of the hillside. This intense longing, however, consequent on the customs hitherto existing in India had become gradually deadened but this deadening was much to be deplored. Happily under the beneficent influence of the Countess of Dufferin's humane association a brighter future seems about to arise.

THE AMBULANCE SERVICE AT THE JUBILEE PAGEANT IN VIENNA.

THE great Jubilee pageant which took place before the Austrian Emperor in Vienna on June 11th in celebration of the Jubilee of his accession to the throne was the occasion of much thought and elaborate organisation on the part of those in charge of its details. No fewer than 12,000 persons in costumes and armour representing every phase of the national history, with 4000 horses, filed past the Emperor, and more than half a million of his subjects shared the spectacle with their venerable monarch. But the complete enjoyment of the great gala day depended on less conspicuous workers than those who marched in the procession and the arrangements for the public comfort and safety were the cause of no less anxiety to the responsible officials than was the pageant to its marshals. This anxiety was intensified by the fact that when 80,000 school children had paid their duty to the Emperor a few weeks previously there had been such a lamentable lack of drinking water and lavatory accommodation as to cause considerable suffering to many of them. Since that time the weather had been hot and dry and the probability of many cases of sudden illness occurring was made all the greater by the fact that a large number of the sightseers, of whom not more than a quarter could find seats in the tribunes, were to be in their places for nine hours from 6 o'clock in the morning on each side of a route nearly 10 miles in length. In spite of this the physical requirements of that huge assembly were met with complete success. Public lavatories were erected every few hundred yards all along the line and an abundant supply of fresh cool water was available at all points. The Vienna Rettungsgesellschaft (Street Ambulance Corps) provided 20 stations, with 216 medical men in attendance, but amongst the whole concourse only 350 casualties needed treatment, most of which were slight attacks of fainting, with a few cases of heat-stroke and minor accidents. We are informed that the excellence of the arrangements evoked universal gratitude from the Viennese public, and indeed it may serve as an object-lesson outside Austria showing the extent to which the public depends upon an organised medical service for the prime necessities of its well-being.

"THE OLDEST INSTITUTION FOR TREATING SICK CHILDREN."

A LARGE circle of the medical profession will learn with sympathy that Sir Samuel Wilks has been laid up by a serious operation for the second time within a few years. We are very pleased to have had evidence of his convalescence in a letter which he has written to us concerning the first children's hospital in defence of the claims of the Royal Waterloo Hospital for Children and Women to the honour of that title. He says: "I was physician there in the fifties and had a few cribs there. When I saw out-patients and there was a child too ill to be taken home (perhaps with pneumonia) I recommended admission, and if there was an empty bed I took it in. Of course, the cots were few, as were the women's beds in so small a place, but children were taken in." The letter which called forth this reply from Sir Samuel Wilks was from the secretary of the Hospital for Sick Children in Great Ormond-street and was published in our issue of June 13th, p. 1716. It stated that "The treatment which the Royal Waterloo Hospital afforded before 1852 ...... and for many years after that date, was dispensary treatment only." It will be seen that Sir Samuel Wilks's statement controverts the last statement. The interest in medical affairs which has led the veteran physician to champion the claims of his old hospital will surprise none who are aware of the enthusiasm and energy which he still displays in the progress of his art, and especially in the defence of medical research. We take this opportunity of expressing our hope that he may be restored speedily to complete health and may long remain a pillar of the society lately inaugurated to promote the great cause which he has so much at heart.

THE SITUATION OF DERMOID CYSTS.

A DERMOID cyst is caused by the inclusion of a portion of the skin at some part of the body where a cleft exists during development and closes later. Thus they are found in the lines of any of the embryonic fissures of the face; especially do they occur at the outer end of the orbital fissure, but they are also found in the lines between the fronto-nasal process and the maxillary processes and in the oral fissure. Dermoids may also be found in the middle line of the trunk anteriorly where the somatopleures close, and posteriorly where the dorsal folds meet. In the labium also and in the scrotum dermoids may be found, and it is probable that all those cysts which have been described as dermoids of the testis are really dermoids of the scrotum. The cysts which have been described as dermoids of the ovary are in all probability teratomata, that is to say, suppressed fœtuses. A distinction has been drawn between the dermoids just described, which have been called somewhat barbarously "sequestration dermoids," and those dermoids which arise in connexion with canals which exist in the fœtus but normally disappear before birth; these dermoids are called tubulo-dermoids. The distinction is practically useless and it results mainly from a want of recognition of the fact that cysts of two kinds may arise in connexion with developmental canals. In one variety the cyst is a true dermoid, exactly similar to those developing in the sites of the facial clefts; its walls are formed of skin and it may contain hairs. In the other form the cyst is derived from a survival of a part of the canal itself; the walls are formed of a stratified epithelium without hair follicles or sweat glands, and hairs are not found in the contents. The diagnosis of anthrax, papulo-necrotic erythema. The last three, and especially the last two, forms are very rare. None of the reactions are serious or produce adenopathy or fever. Complete recovery takes place in one or two weeks. This reaction is applicable at all ages and in all forms of tuberculosis. In the immense majority of cases the cutaneous reaction, like the ocular reaction, is positive only in tuberculous children and is negative in those free from the disease. However, in cases of subacute infection (*granulie*) and in cases of advanced pulmonary tuberculosis the cutaneous reaction, like the ocular, may be negative. Sometimes the cutaneous reaction is negative in a patient who is very ill but becomes positive when he improves (when the temperature falls, strength is regained, and the pulmonary focus dries up) Conversely, when the reaction is positive while the child is fairly well it becomes negative when he becomes ill. The negative reaction in advanced tuberculosis is not an important drawback of the method. The important point is to recognise tuberculosis in its initial stage when the reaction is of service.

THE STATUES ON THE NEW BUILDING OF THE BRITISH MEDICAL ASSOCIATION.

IT is sincerely to be hoped that the authorities of the British Medical Association will turn a deaf ear to the suggestion that the simple and forcible figures which adorn the Strand façade of the new buildings of the Association ought to be removed. They are good and dignified sculpture, they are suitable to the building, and could only offend the sort of nasty-minded person whom it is useful in the cause of morality to offend and to keep on offending; and if the Association at the bidding of an ignorant outcry removes them it will not improve its reputation with the medical profession for pluck, for decency, or for knowledge of art. Some of the critics of these statues, fearing to be called pruriently prudish, say that they object to the statues not because they are naked but because they are ugly! In the name of common sense is a nude less harmful to public morals when made to be alluring? The outcry against these figures is so silly that there must be some reason behind it.

PERSISTENT HÆMATURIA FROM VARICOSE VEINS OF A RENAL PAPILLA.

IN the *Boston Medical and Surgical Journal* of May 21st Dr. W. F. Whitney has reported a case of hæmaturia due to a very rare cause—varicose veins of a renal papilla. A middle-aged man was admitted into the Massachusetts General Hospital with a history of repeated attacks of hæmaturia for a considerable period. Careful examination failed to reveal the cause. Cystoscopy showed bloody urine issuing from one of the ureters. The corresponding kidney was removed. After removal it appeared to be somewhat pale but otherwise normal. However, on closer inspection the tips of one or two of the papillæ were observed to be reddened and a little spongy. They were cut out at once, hardened, and stained. On microscopic examination the venules at the tip of the papilla were seen to be dilated irregularly to twice or thrice their normal size and to be covered on their free surface with a fine film of connective tissue and a single layer of epithelium. Here and there they projected as varicose knuckles above the surface. The conditions were such that the slightest violence must have caused rupture and extravasation of blood. In many cases the lumen of the vessels was filled with finely granular detritus and occasional blood corpuscles. That hæmorrhage must have taken place here was borne out by the fact that the straight tubules contained blood corpuscles. The condition described was adequate to account for frequent and severe hæmorrhage, for an insignificant lesion will produce severe epistaxis. In this connexion it is interesting that there is an abundant vascular plexus at the apex of the normal papilla and that the vessels are separated from the surface only by a thin layer of tissue. After studying this case Dr. Whitney's attention was called to a series of cases reported by Mr. E. Hurry Fenwick under the title of "Painless Hæmaturia of Angioma or Capillary Nævus of a Renal Papilla." Dr. Whitney regards his own case as belonging to this class but considers that the condition is one of varicose venules rather than of angioma or nævus. The following is one of Mr. Fenwick's cases. A girl, aged 18 years, had suffered for five years from intermittent hæmaturia. Astringents had no effect. Bacteriological and microscopical examination showed no evidence of the nature of the disease. On one occasion dark blood was seen issuing in jets from the left ureter. As the patient became very anæmic the kidney was explored and brought out on the loin. It was healthy to sight and touch. On incising the pelvis what appeared to be a villous tumour of a papilla was seen with the electric light. A tuft of vessels surrounded the apex of a papilla. With a Volkmann's spoon the papilla and half of the pyramid were cut out. The vessels of the mucous membrane covering the papilla were markedly varicose. Mr. J. H. Targett examined the specimen and reported that there was no evidence of growth but that there was congestion of vessels with extravasation of blood and increase of the cellular stroma. The hæmaturia ceased.

THE NATIONAL ASSOCIATION FOR SUPPLYING FEMALE AID FOR THE WOMEN OF INDIA.

THE Viceroyalty of the late Earl of Dufferin was *certainly* one of the most beneficial events that our great Eastern Dependency ever experienced. But not only did the Viceroy insure by his wise statesmanship a calmful rest to the somewhat troubled waters that were existing when he took up the reins of office but he was well seconded by the able counsels of his wife. Through her instrumentality the School for the Training of Christian Indian Women as Medical Missionaries was established to work in connexion with all Protestant missionary societies. The purpose of this school was to enable them to obtain a Government diploma in medicine, surgery, and obstetrics; in it they were to be trained as nurses, compounders, and midwives, whilst at the same time they were to labour in evangelistic work amongst their patients. That such trained women were necessary was at once evident when we consider that the Indian woman is jealously guarded from the eyes of Europeans. For instance, a medical man would be expected to make a diagnosis by feeling the pulse of a patient's hand thrust through a hole in a purdah. Only female doctors having entrance to Mussulman and Hindu homes would have opportunities for carrying enlightenment on religious subjects to mothers dominated by beliefs, creeds, and superstitions some of which were cruel and most of which were grotesque. To set aside these ancient superstitions was a work of enormous magnitude when we consider the innate conservatism of the Indian people, and the only hope of doing so was by the founding of a school such as the Countess of Dufferin originated. Each succeeding year since its inception has shown increasingly gratifying results. The last report, for instance, for the year 1907 demonstrates that at the Memorial Hospital of the school situated at Ludhiana there were 1188 in-patients, 16,517 out-patients, and a total of attendances of 52,374, or more than 1000 a week. The total operations were 583. There are 100 beds and at the present moment 43 students are undergoing training. In addition, however, to the hospital at Ludhiana the report shows the great work that has been accomplished by the numerous Dufferin hospitals throughout the length and breadth of India, not only the use of decomposed preparations. Dr. Biberfeld tested a preparation consisting of three parts of the dextrorotatory modification and one part of the lævorotatory on the kymograph and found that it was equal in activity to synthetic suprarenin. Further interest is lent to the controversy by an article by Dr. Arthur R. Cushny[2] supporting Professor Dixon. He took the natural base, the synthetic base, and the base referred to by Dr. Biberfeld, and found by experiments on dogs that their relative strengths bore the relation 4:2:1. Hence the dextro modification would appear to be inert as regards effect on the blood pressure, and the synthetic base, consisting of equal parts of the optical isomerides, has only one-half the power of the natural substance. Dr. Cushny denies that Professor's Dixon's solutions were decomposed and suggests that Dr. Biberfeld's divergent results may be explained by his unfortunate choice of the rabbit, as this animal rapidly acquires a tolerance for the drug.

INDIAN MEDICAL SERVICE: THE ANNUAL DINNER.

THE annual dinner of the Indian Medical Service was held on Thursday, June 18th, at the Gaiety Restaurant, Surgeon-General A. M. Branfoot, C.I.E., being in the chair. The principal guest was Lord Morley of Blackburn, Secretary of State for India. The following members of the Service were present:—*Surgeon-Generals*: G. Bainbridge, W. R. Browne, C.I.E., J. Cleghorn, C.S.I., A. Eteson, C.B., J. P. Greany, G. Hay, L. D. Spencer, C.B., and P. W. Sutherland. *Colonels*: S. H. Browne, C.I.E., C. W. Carr-Calthrop, W. E. Cates, D. E. Hughes, C. H. Joubert de la Ferté, W. G. King, C.I.E., M. D. Moriarty, W. O'Hara, P. A. Weir, T. J. H. Wilkins, and W. A. S. Wynne. *Lieutenant-Colonels*: C. Adams, R. Bonstead, E. H. Brown, Sir R. Havelock Charles, K.C.V.O., W. Coates, R. Davis, H. P. Dimmock, A. Duncan, T. E. Dyson, W. H. W. Elliot, L. G. Fischer, P. J. Freyer, W. Gray, B. B. Grayfoot, H. N. V. Harington, P. Hehir, H. Hendley, R. A. K. Holmes, E. R. Johnson, Sir A. S. Lethbridge, K.C.S.I., A. W. D. Leahy, S. Little, J. Lloyd Jones, C. G. W. Lowdell, D. P. MacDonald, F. P. Maynard, J. Moorhead, T. H. Pope, K. Prasad, J. Reid, F. C. Reeves, T. G. Skardon, G. S. Thomson, W. H. Thornhill, J. F. Tuohy, G. Waters, W. R. Woolbert, and F. W. Wright. *Majors*: A. R. S. Anderson, H. S. Caldwell, A. Gwyther, P. B. Haig, J. G. Hulbert, J. Jackson, C. H. James, E. A. R. Newman, F. R. Ozzard, W. J. Prideaux, and H. Smith. *Captains*: W. R. Battye, H. M. Brown, J. K. S. Fleming, R. B. B. Foster, R. W. Knox, J. M. D. Megaw, W. O'S. Murphy, A. E. H. Pinch, J. N. Walker, E. L. Ward, and J. J. Urwin. The other guests present were Sir R. Douglas Powell, Bart., K.C.V.O., President of the Royal College of Physicians of London; Sir Thomas Barlow, Bart., K.C.V.O.; Sir William S. Church, Bart., K.C.B., President of the Royal Society of Medicine; Lieutenant-General Sir O'Moore Creagh, V.C., K.C.B.; Colonel D. Wardrop, Commandant, Royal Army Medical College, Millbank; Mr. Austin Low; the Editor of the *British Medical Journal*; and Dr. S. Squire Sprigge. As usual at this pleasant dinner there were no speeches, Lord Morley merely acknowledging the obvious pleasure of the diners at his presence by a few words. A selection of songs rendered with grace and spirit by Miss Clara Evelyn well deserved the warm appreciation that was expressed by the diners.

THE Earl of Crewe will unveil the statue of Her Majesty Queen Alexandra at the London Hospital on Friday, July 10th, at 4 P.M., on the occasion of the prize distribution to the students and probationers of the Medical College.

WE much regret to announce the death at the early age of 38 years of Dr. Bertram Abrahams, assistant physician to the Westminster Hospital.

THE RELATIONSHIP OF THE SO-CALLED FAMILY DISEASES TO A PREMATURE PHYSIOLOGICAL SENESCENCE LOCALISED TO CERTAIN ORGANIC SYSTEMS,

AND CONSIDERED WITH SPECIAL REFERENCE TO THE NERVOUS SYSTEM.[1]

BY F. RAYMOND, M.D.,

MEMBER OF THE PARIS ACADEMY OF MEDICINE; PROFESSOR OF CLINIC OF NERVOUS DISEASES IN THE FACULTY OF MEDICINE; PHYSICIAN TO "LA SALPÊTRIÈRE"; PRESIDENT OF THE FRENCH SECTION OF THE "ENTENTE CORDIALE MÉDICALE."

[Dr. Raymond, after paying a graceful tribute to the address delivered on Feb. 18th last in the theatre of the Faculty of Medicine of the University of Paris by Sir Dyce Duckworth, President of the English section of the "Entente Cordiale Médicale," proceeded to lecture, in French, upon the family diseases of the nervous system and the part played by heredity in these diseases. He said:]

The so-called family diseases are most interesting. They form a class of very peculiar maladies, a nosological group as important from its particular characters as from the considerable development it is deservedly attaining in pathology. Whether you consider their anatomy or their pathological physiology, their symptoms or their course, they stand out with such strong and personal features that they cannot be mistaken for any other disease. No trauma, *no infection, no intoxication, no diathesis gives rise to them.* From beginning to end they follow an inevitable course, as inevitable as the "Fatum" of the Ancients. To become the victims of these diseases the subjects have only to be born of the same parents and reach the age marked out by Fate. Family diseases, unlike so many others, are not the expression of a struggle waged by the system against a morbific agent (and the word struggle implies possible victory). They are the consequence of the original constitution of certain *nerve tracts or cells* and *so they* have sometimes been called "Evolution Diseases." As a matter of fact, they can hardly be termed "Diseases," for they are really *organic types abnormal from their very origin.*

I purposely say "family diseases" and not "hereditary diseases." The latter term includes too many complaints and, moreover, pathological heredity is one with normal heredity: it is present in all sick persons—I was about to say in all men. We all know its enormous influence on the development of nervous diseases; its characteristic feature is its great dissimilarity. Moreover, an efficient morbific cause is always found working with it. Not so with the family diseases; they are exclusively created by the parents, by the ancestors, and they develop quite apart from any external influence. Clinically it is easy to realise the absence of any external influence when we see several brothers and sisters who have lived in widely different conditions developing at the same age one same disease which is inevitable and progressive and due to pathological changes which are not those of defence or inflammation. Are these diseases always, strictly speaking, "family diseases," that is to say, are they always repeated in several members of the same family? By no means. They are often met with as isolated cases, and it is by their own symptoms that they can be recognised.

Another general remark which must not be overlooked in connexion with these diseases is that the different clinical types which constitute them are not found to be identically the same in all cases. It seems as if each family had its own way of working out the same family disease, just as if the fact of developing in different families caused each dermoid cysts is generally easy, though they may on the one hand be confused with teratomata and on the other with sebaceous cysts. The distinction in doubtful cases will depend on the nature of the sac wall and of the contents. In the present issue of THE LANCET is printed an account by Mr. P. Maynard Heath of a dermoid occurring behind the ear, a somewhat rare situation.

---

[2] Pharmaceutical Journal, May 23rd, 1908, p. 562.

[1] An address delivered before the Royal College of Physicians of London on June 22nd, 1908.

THE EYES OF EPILEPTICS.

THE results of some observations made upon the eyes of epileptics between the attacks, undertaken by Dr. A. Rodiet of the St. Yon Asylum, Dr. P. Pansier of Montpellier, and M. F. Cans of the Asylum of Mondevergues, have been published in recent numbers of the *Recueil d'Ophtalmologie*. These observers, who have had large opportunities of investigation, find that slight dilatation of the pupil may be noticed during the period of depression that follows the paroxysm, and that whilst the ordinary reflex phenomena take place their character is often disturbed, as, for example, by hippus and by paradoxal reflex. In addition injection of the conjunctiva accompanied by anæsthesia or hyperæsthesia may be observed which is not only very well marked during the phase of clonic spasms but remains for some time after. The fundus of the eyes presents a certain degree of hyperæmia which lasts for an hour or two if the case is slight, but if severe may persist for 12 hours. In the intervals of the attacks the papilla is pale and the retinal vessels are small, probably indicating general anæmia. In epileptics of old standing, or presenting very serious attacks, neuritic troubles or grey optic atrophy may be seen. Not infrequently, if the state of conjunctival and temporary retinal congestion recurs at short intervals, a permanent condition of hyperæmia is induced, so that with pallor of the papilla there is great passive congestion of the retinal vessels. Occasionally the choroid and retina show well-marked pigmentation highly suggestive of hereditary syphilis. There may also be irregular contraction of the field of vision not amounting to hemianopia especially noticeable just after the fits.

INJURY TO VEGETATION AND CATTLE DUE TO SMELTER WASTES.

THE United States Department of Agriculture has recently issued a bulletin[1] by Mr. J. K. Haywood dealing with the injury that is sustained by vegetable and animal life in the vicinity of copper smelting works, owing to the smelter wastes. The investigation, which was conducted at Anaconda, Montana, is of interest to sanitary officials as well as to agriculturists. The principal waste products are sulphur dioxide, with a little sulphur trioxide, arsenic, copper, lead, and zinc. Experiments are recorded showing the injurious action of sulphur fumes on vegetable life. The arsenic is given off in the fumes of the smelter in a volatile form and is deposited upon the surrounding lands and crops where cattle are reared. A comparatively large amount of copper in suspension, and to a less degree in solution, is found in the "tailings" from the water concentrations and in the drainings from the "dump heaps," which eventually pollute adjacent streams. Finely-divided particles of flue dust, containing sufficient quantities of copper, lead, and zinc to injure vegetation, were found in the atmosphere at considerable distances from the smelters. It was found that the vegetation around a smelter was greatly injured by the sulphurous gases to distances extending 20 miles north, eight miles south, six miles east, and 15 miles west, and less severe injury probably extended for a considerable distance beyond these limits. Arsenic was found in quantities sufficiently large to poison cattle in samples of forage crops gathered at varying distances up to ten miles from the smelter and in samples of the soil collected at a distance of eight miles. These results are of great importance to medical officers of health and sanitary boards, as conditions which injuriously affect vegetable life and cattle are prejudicial also to man, not only by the pollution of streams and the air but by introducing a danger of epidemic arsenical poisoning through the agency of cattle fed on contaminated pastures and dry forage.

THE CORONERS' SOCIETY.

THE annual banquet of the Coroners' Society of England and Wales was held at the Holborn Restaurant on June 18th. The chair was taken by the President of the society, Mr. Isaac Bradley, J.P., coroner for Birmingham. The banquet, which was well attended by members of the society and guests, was very successful. After the usual loyal toast had been proposed by the chairman, that of "Imperial and Local Government" was proposed by Mr. Christophers, coroner for Warwickshire, and responded to by Mr. J. T. Middlemore, M.P. for the Northern Division of Birmingham, on behalf of Imperial government, and by Mr. R. A. Robinson, chairman of the London County Council, on behalf of local government. The toast of "The Coroners' Society" was proposed by Mr. C. E. Troup, C.B., of the Home Office, who referred to the work of the society and the valuable character of its reports. The reply was made by the chairman in an eloquent speech, delivered in admirable style, referring to the duties and responsibilities and anxieties of the coroner's office. The health of the guests was proposed by Mr. Troutbeck, coroner for Westminster, and responded to by Mr. George Crisp Whiteley, President of the Society of Justices' Clerks, and by Mr. W. W. Kelland, the chairman of the Middlesex county council. The toast of "The Officers of the Society" was proposed by Mr. C. L. Rothera, coroner for Nottingham, who referred to the excellent work of the honorary secretary, Mr. Walter Schröder, and the honorary treasurer, Mr. G. Perceval Wyatt. Mr. Schröder responded and alluded to the help which he obtained from the members of the council. During the evening a pleasing entertainment was provided under the direction of Mr. Arthur Winter.

SYNTHETIC SUPRARENIN.

Dr. F. Stolz, the originator of synthetic suprarenin, in the *Pharmaceutical Journal* of May 16th takes exception to Professor W. E. Dixon's conclusion[1] that the synthetic substance is less active than the natural suprarenin. He states that the results of investigations by a large number of clinicians and pharmacologists have furnished proof that the synthetic article is the more active. Dr. Hans Meyer of the Pharmacological Institute, Vienna, showed that both substances are identical in their influence on blood pressure and vascular contraction, in their anæmic and mydriatic action, and in the production of diuresis and glycosuria. He quotes the statement of Dr. Barhem of Bonn University that "synthetic suprarenin is not inferior to the natural in practice," and states that these conclusions have been confirmed by Dr. Hans Hoffmann of Leipsic, Professor Braun of Zwickau, and many others. In the same number of the *Pharmaceutical Journal* Dr. J. Biberfeld of the Pharmacological Institute, Breslau, publishes recent confirmatory experiments on rabbits showing similar results from both substances in raising the blood pressure. He combats the suggestion of Professor Dixon that the lævo-rotatory portion alone of the synthetic suprarenin is active, whilst the dextro-rotatory portion is wholly inactive, and attributes Professor Dixon's results to

---

[1] Bulletin No. 113, Bureau of Chemistry, United States Department of Agriculture, pp. 40, 1908.

[1] THE LANCET, May 23rd, 1908, p. 1502.

The *course* of the disease is the most important point. The onset is slow and insidious, so that it is impossible to state accurately at which moment the trouble has begun. The course is always progressive. There is never any retrocession; never does a symptom fade or disappear when once it has appeared. Sometimes the course is hastened under the influence of certain causes (nearly always toxic or infectious). But the rule is an imperceptible and continuous progression, running on very slowly and very smoothly till the complete disappearance of the affected system. The disease may not necessarily prove fatal, the affected system may not be indispensable to life, or else its function may be carried on by another system so that death will not come about without the interference of some other disease. Death is not, therefore, the direct, immediate, and fatal outcome of family diseases proper.

It now remains for us to see how the family diseases develop—what is their pathogeny? What place should they occupy in a classification of diseases? The problem is not only of a speculative interest; it has also a great practical bearing.

When describing the inevitable course of family diseases I made no reservation, the patient is doomed from the very instant of his conception as soon as spermatozoon and ovum have united. Now this we can prevent by forbidding marriage to those individuals who bear an hereditary stigma. We must never forget that a physician must try to *prevent* at least as much as *cure.* Moreover, prevention is easier than cure. From the standpoint of prevention it may be therefore of the highest practical importance to know the circumstances which give rise to family diseases.

In the first place we must inquire into the etiological factors such as we find them in the detailed reports on which has been built the history of these diseases. Unfortunately, at the present time we can trace but their outline. The problem may, however, be somewhat simplified by the following considerations which it seems to me have not sufficiently engaged the attention of observers hitherto.

The perfect development of a germ supposes in the first place the existence in that germ of its own attributes. In the human species the germ arises from the union of the spermatozoon with the ovum, and these must necessarily possess certain qualities for the germ to be able to develop. Further conditions are also necessary; thus a favourable medium is particularly indispensable, for one cannot separate the germ from the medium in which it is about to develop.

In relation to family nervous diseases the plain facts are as follows. An organic system—the nervous system—comes into life, develops itself, performs its functions, then fades away, dies, and disappears at a far earlier period than the other systems of the body; we see it atrophy, lose its functions, and undergo sclerotic changes long before the death of the individual. The mechanism of this isolated and premature disappearance of an organic system is rather obscure. Is there in each cell a certain dose of energy which gradually gets exhausted until it entirely disappears? This is a somewhat vague and philosophical conception. At any rate, it is no explanation to us physicians so long as the word energy does not apply to something tangible and well defined. Is there, on the contrary, a poisoning of the nerve cells through some modification in their medium—as, for example, the formation of a special cytolysin? Again, are the sclerotic changes brought about by an accumulation of waste products the results of cell activity?

This last hypothesis is rather tempting, for it enables us to understand why it is that the onset of the disease takes place at about the same age in the several members of a same family—that is to say, in individuals whose cells have the same chemical characters and the same medium. We can understand, then, that fibrous degeneration appears at the same moment in the members of one family just like fermentation of yeast cells stops in a given medium at the end of a certain time always the same for the same kind of yeast, whereas by altering the medium the period of senescence of the yeast is changed. Now the patients in question represent the same primary germ, the same maternal medium, and most likely the same individual medium.

As an example of the duration and family character of an organ or function nothing could be more striking and instructive than the result of some careful observations I have just made at the Salpêtrière on the duration of genital life in certain families. I have found 12 families who have been able to give me accurate information as to the time when menstruation appeared and ceased either in the mother and daughter, or in several sisters, or at the same time in the mother and in several daughters. The duration of genital life as characterised by menstruation is very variable. We have found it to last from 21 to 42 years with all the intermediate figures. In those 12 families the duration has proved the same in mother and daughter with a possible difference of one year.

Let us now return to the family diseases of the nervous system and their pathogeny. The nerve cell naturally takes its share of the qualities of the primary germ cell resulting from the union of the spermatozoon with the ovum. Now one or other or both of those cells may undergo some influence which may modify their normal characters simply because the father and mother suffer from a pathological disturbance of their tissues and body fluids. Now I insist on the fact that up to the very time of conception the modifications of the parent cells may have a very decided influence on the daughter-call, the germ. To bring about a change in the spermatozoon or ovum it is not necessary for the father or mother to suffer from the slow and prolonged action of a chronic disease; remember the baneful consequences when conception takes place when one of the genitors is in a condition of drunkenness. Apart, however, from inebriety—which may affect several members of the same family—we can imagine similar results arising from the use of other exciting poisons such as cantharides or even from any other exciting cause. It has been said that suggestion may cause certain disturbances in the development of the fœtus, a great mental shock or even the memory of such a shock may perturb the parent cell. Now if we consider the action of drugs have we not good reason to be struck with the truly magical effects of mercurial treatment on syphilitics before conception? Take a syphilitic man. He marries but conceives no children, or else his wife cannot bring to term a single pregnancy. We give a few grains of mercury and conception takes place, the child is born at term, and his development is normal. In view of this fact is it not wonderful that in our daily life there should be such a uniformity of our inner medium that spermatozoa and ova are only exceptionally modified and deviated from the normal type. We are bound to realise that the variations of our inner medium are of the slightest and we may remark also that by the union of the two cells of opposite sexes there takes place as it were a levelling of defects so that the average type of the species is maintained. Here, again, pathology inforces its laws. It is necessary that the pathological peculiarities of the germs which go to form the embryo be of a different kind so as to neutralise each other. If the peculiarities are of the same nature—synergetic—they will add themselves or even multiply and the new being will be not of the normal but of a pathological type.

However great the influence of synergy or opposition of parental defects or stigmata this influence is reduced to nought when the stigmata of one parent are marked enough to remain predominant. One parent may in that case unite with different partners and reproduce every time the same pathological type. And so in a careful etiological inquiry, in case of a second marriage, we are led to examine whether the children born of the second union present the same morbid peculiarities as those born of the first.

This is not all. After the union of the spermatozoon with the ovum the evolution of the future being is far from settled. The new germ cell arising from the fusion of the two parental cells must now multiply. This is only possible under special conditions of nutrition, temperature, and surroundings. If the conditions differ too widely from what they should be the cell will perish and will give rise to no living being. If the conditions are moderately different a new being will come into existence but it will be an abnormal one. In man, of course, the maternal medium is necessary for the development of the ovum. Anything that may perturb the maternal medium may therefore exercise an effect on the developing ovum. It is, therefore, impossible to exaggerate the necessity of placing the mother in as healthy conditions as possible.

Now it so happens that pregnancy exercises a marked disturbing influence on the organic functions. This influence on the organic functions may differ in intensity and in nature. Here, again, is a subject for important researches to be made amongst mothers who have borne children suffering from family diseases. The child being born will now develop in the outer medium; it will have to withstand external influences, such as defective airing or clothing, and, morbid type to receive a somewhat different stamp. And thus it is that the classification of family nervous diseases is difficult. Every year, as it were, new diseases spring into existence because authors describe too often as a special disease what is in reality a peculiar form of disease already well recognised.

[Dr. Raymond illustrated this point by considering progressive muscular atrophy, which, after being described by Duchesne of Boulogne as a single disease, was differentiated by subsequent observers into several varieties, until the unity of its myelopathic and myopathic types was again proclaimed by himself (Dr. Raymond), his opinion being confirmed by the description of an intermediate family type of the disease by Werdnigg and Hoffman. He proceeded:]

We have, then, a series of well-defined syndromes, some of which constitute obviously family diseases, others that we consider as such by reason of their clinical similarity with the members of the first group. The two groups unite to form one class which bears the name of progressive muscular atrophy.

The same demonstration could be made in regard to other varieties of family diseases, especially the group of "Hereditary Ataxias." In my lectures on Friedreich's disease I have demonstrated the existence of hybrid forms of hereditary ataxia. These forms have so increased in number that the pure type which was first described is now the exception rather than the rule. As a matter of fact, there is no well marked boundary between the two extreme types of hereditary ataxia—the spinal form and the cerebellar form. Friedreich's disease and the cerebellar heredo-ataxia of Pierre Marie, with the intermediate types, have as a common feature the changes in the cerebellar system both in its afferent and efferent paths, and in my lectures of 1905 I proposed the following classification:—

A.—A *spinal form*, with loss of reflexes, scoliosis, and club-foot added to the common syndrome. This would be the *Friedreich type*.

B.—A *cerebellar form*, with atrophy of the optic nerves, vertigo, mental disturbances, added to the common syndrome forming the *Marie type*.

C.—A *bulbar form*, with vomiting, dyspnœa, and cardiac arrhythmia.

D.—A *bulbo pontine form* characterised by auditory disturbances.

E.—A *generalised form*, as in Menzel's case.

These are all different types, but they are all linked together by the *common cerebellar syndrome.* This same common link has been found in those types described by Pauly and Nonne, by Lorrain, and which are intermediate between family ataxia and the spastic paraplegia of Strümpell. It also appears in the recent cases published by Mademoiselle Pesker in her Thesis and where the cerebellar syndrome is associated at the same time with symptoms of mental failing with spastic paraplegia, the anatomical basis of this condition being well-marked hypoplasia of the whole cerebro-spinal axis without sclerosis. In all these cases disease is the direct outcome of heredity, and this fact should be borne in mind when attempting a nosological classification.

Family diseases can, however, be considered from a higher and more general standpoint. I use the word *general* advisedly, for this question is by no means confined to the nervous system.

I have no intention of making a lengthy digression in the domain of general medical pathology. I may be allowed, however, to recall the excellent work that has been done of late years on family diseases of the digestive system (merycismus, periodical vomiting), of the liver and bile ducts (as, for example, family cholæmia, so well described by Gilbert and Lereboullet), of the kidney (Charrin and Delamarre, Castaigne and Rathery), of the circulatory apparatus, of the skin, the organs of sense, the blood (hæmophilia), the bones (achondroplasia, cleido-cranial dysostosis, &c.).

It is most important to recognise accurately the family character of a disease, whatever be the disease and its localisation. By this I mean that we should not give the name of "family diseases" indiscriminately to all congenital or hereditary diseases. Thus we separate from the group of family diseases those maladies where heredity manifests itself by the transmission of some infection, such as syphilis or tuberculosis. Several children born of a syphilitic father may be afflicted with the symptoms of hereditary syphilis without our considering this in the least as a "family disease." If, however, the children exhibit dystrophic stigmata the distinction is more difficult. These remarks about syphilis apply equally well to tuberculosis, diabetes, gout, intoxications such as lead-poisoning, or alcoholism.

It becomes very difficult to apply the qualification of family disease when in a family heredity creates a *locus minoris resistentiæ*, which is to be found in all its members. It is in this sense that Gilbert and Lereboullet understand the family character of cholæmia. In the patients to whom the authors' description applies there is a special predisposition to infection; hence at the first opportunity a morbid condition arises in the bile-ducts.

I fully recognise the analogy between the pathogeny of those diseases and that of the family diseases as I understand them. But we must bear in mind that in those conditions described by Gilbert and Lereboullet the disease is not fatal; it does not develop at the same age in all the members of the same family; finally, it depends necessarily on the intervention of some external agent, microbe, poison, or toxin. Now all these characters are essentially different from those ascribed to family diseases proper. Under this heading I place only those diseases which affect in an identical form several children in the same generation, which make their appearance at the same age in all of them, and which originate without the intervention of any morbific agent whether extrinsic or intrinsic.

Of the three fundamental characters just mentioned the first two may be wanting, as there are isolated and aberrant cases; these are all the more difficult to identify that the most remarkable peculiarity of family diseases is a great variableness in the symptoms. We must not expect to find the same type everywhere, each family has its own. Even the best known of these diseases—as, for example, Friedreich's hereditary ataxia—does not always appear with the same features. The absence of all known efficient cause is therefore the principal character of family diseases. Nevertheless, the morbid anatomy, the symptoms, the course, are sufficiently peculiar to identify the *nervous* family diseases, the only ones I have in view here.

The *morbid anatomy* is characterised not by localised degeneration to one or other of the fibre groups or cell masses but by strict localisation to one or several systems. No inflammatory products are found, whether nodular or in streaks and extending to the several tissues of the one same region. Macroscopically, we simply notice the disappearance of certain parts which constitute, as we know, one functional whole. Microscopically, we only meet with simple atrophy of the nobler elements with hypertrophy of the interstitial tissue. In some cases this hypertrophy is limited to the replacement tissue; in other cases, such as pseudo-hypertrophic myopathy or in the interstitial neuritis of Déjerine and Sottaz, it reaches an abnormal development. But in all those cases one very important fact is noticed and that is the absence of any inflammatory reaction. The system has not to repulse an attack from the outer world or from the depths of its own being. There is no trace of a struggle and therefore no evidence of defence. The lesion consists simply in the disappearance of a system of cells or fibres which dissolve, as it were, without leaving a trace. Connective tissue growth then occurs and takes the place of the cellular system that has disappeared, but this is only to fill the void. This process, therefore, is very different from that which modern conceptions ascribe to diseases. These are likened to a real battle with its hand-to-hand struggles, its defenders and assailants gallantly fighting against one another and destroying one another amid much havoc. Again, the process is very different from the less boisterous but none the less earnest attack of poisons or toxins, causing our cells to decay and modifying our body fluids. Nor can it be compared to the traumatic changes such as are found in the neighbourhood of a tumour or of a hæmorrhagic area, nor to the massive necrosis of ischæmia, whether due to an embolus or to arterial stenosis.

The *symptoms* of the family nervous diseases depend entirely on the physiological functions of the tracts or cells that are doomed and are disappearing gradually. Any part of the neuro-muscular system may be involved. We must remember, however, that even when the morbid changes are well limited the functional disturbances point nevertheless to an involvement of the whole neuro-muscular system. The proof of this is in the frequency of the mental syndrome. The sphincters, however, remain as a rule untouched until the very last period of the disease.

boxes and instruments the extension of this practice cannot be regarded as anything in excess of what is urgently demanded in the interest of the public. As these places are under the control of the Postmaster-General local authorities have no jurisdiction; it is therefore incumbent on the Post Office to see that they are properly constructed, regularly and frequently inspected, disinfected, and kept thoroughly clean.

THE RESEARCH DEFENCE SOCIETY.

THE inaugural meeting of the Research Defence Society was held at 20, Hanover-square, London, on June 19th, the President of the society, Lord Cromer, being in the chair. The report of the committee stated that the members of the society already numbered over 1300.

Lord CROMER then delivered the following address: When I was invited to become the President of the Research Defence Society I experienced a feeling of some surprise. Most of my life has been passed in endeavouring to steer a straight course through the bewildering shoals and quicksands of Oriental administration and diplomacy. Work of this sort, though it may, perhaps, under a somewhat strained interpretation of the word be designated as an art, can scarcely be said to rise to the dignity of a science. I suggested, therefore, that the choice of a president of higher scientific attainments than myself would be preferable. I was then informed that the absence of scientific knowledge, which I regarded as a disqualification, was, in the eyes of the promoters of this society, my principal merit. On reflection, I understood that this view was not quite so paradoxical as might at first sight appear. The men of science wished to show that they had the support of those who could lay no claim to special scientific knowledge. The humane men who are constantly accused of wanton cruelty to animals wished to show that they enjoyed the sympathy of those who had taken an active part in the prevention of that cruelty. From the latter point of view I could, I am proud to say, lay claim to some qualification, for no part of my Egyptian work interested me more than the long, and I may add fairly successful, campaign against cruelty to animals in that country, which was undertaken by the society of which I was for many years President. Gentlemen, I do not merely hold that there is nothing inconsistent between an absolute detestation of wanton cruelty to animals and approval of experiments on living creatures having for their object the relief of suffering to both human beings and dumb animals. I go further than this: I maintain that the one attitude is the necessary consequence and corollary of the other, and that if the necessity of the experiments may, as I hold, be justified by any good and sufficient reasons, their execution should be, so far as is possible, watched and controlled by a body of men who would shrink with horror from anything indicating indifference or callousness to the wanton infliction of pain. If I thought that the charge of indifference or callousness could be justified the case would be very different. I do not hesitate to say that the Research Defence Society would then have to look out for another President. It is because I am convinced that the charge cannot be justified that I am here. What are the main grounds on which vivisection can be defended? They are twofold. In the first place it has to be shown that experiments on living animals have already produced invaluable results and may produce results still more invaluable. In the second place it has to be shown that the experiments are conducted in such a manner as to minimise, if not altogether to obviate, suffering of any kind. I hold that both of these propositions can be proved up to the hilt. There are, I am aware, a certain number of persons who think that it is not under any circumstances justifiable to destroy animal life. With those who hold this extreme view we must, I fear, agree to differ. The full application of their theory would, as it appears to me, carry us to some very strange and practically impossible conclusions. I will not attempt to argue this point. I need only say that the civilised world in general is not prepared to accept this view. But with others who do not go to these lengths the case is different. Of these I should like to say that I respect their motives and although I am not always able to accept the accuracy of their facts or to concur in their conclusions, I fully sympathise with the objects which they have in view. It is on this account that I will not reply in any unfriendly spirit to the various communications, many of them couched in somewhat violent and unreasonable language, that I have recently received on this subject. Now, first, as to the utility of vivisection I must of course leave the detailed examination of this question to those possessed of special knowledge, but it requires no special knowledge to be convinced that well-nigh every advance in medical science since Harvey discovered the circulation has been, directly or indirectly, the result of experiments on living animals. Let me give one or two instances. One of the greatest discoveries of modern times is that the transmission of malaria is effected by mosquitoes. In the words of a very eminent authority, this discovery "is going to make the tropics habitable." I have myself seen enough to enable me to judge of the enormous value of this discovery. Fever has almost entirely disappeared from the town of Ismailia on the Suez Canal, which was at one time becoming well-nigh uninhabitable owing to the prevalence of this disease. It will, I know, be said that this discovery was not due to vivisection; but listen to what so high an authority as Professor W. Osler, the Regius professor of medicine at Oxford, says on this point. He was asked by the Royal Commission now sitting whether the discovery would have been made had it not been for previous experiments on animals. "Never," was the reply. "The men who made these investigations spent their lives in the laboratories and their whole work has been based on experimentation on animals." Malta fever, as to which I need not give the details, is another case in point. Experiments on monkeys led to the discovery of the cause of the disease. As to the actual saving of life, the advantages which have been obtained by vivisection can be proved to demonstration. Take the case of diphtheria, which has given rise to much discussion. The figures, if they are fairly used, are conclusive. The percentage of fatal cases in the Metropolitan Asylums Board's Hospitals has sunk from 28 in the period which preceded the introduction of the antitoxin treatment to 2·8. Similar facts might be adduced as regards rabies. Need I dwell on the argument that no cure for cancer has yet been discovered? Scarcely. I am not aware that it was ever held to be a reproach to Sir Charles Wheatstone, the father of modern telegraphy, that he failed to anticipate the discovery of Marconi. It is safe to predict that if ever a cure for cancer is found the discovery will be due not to observation, but to the experimental method. I now turn to the other branch of the question, I mean the methods adopted in conducting the experiments. Several causes have contributed to lead to much misapprehension on this subject. In the first place, some isolated case is often taken and presented to the public with a variety of harrowing and revolting details. As regards these isolated cases I have to observe that in the first place the facts have to be accepted with the utmost reserve. On examination they very frequently turn out to be either greatly exaggerated or wholly imaginary. In the second place, it is an old and well-recognised maxim that hard cases make bad law. Of course, I fully recognise that if even in a single case wanton cruelty could be shown, the subject is one which calls for careful inquiry, with a view, if possible, to preventing the occurrence of any such event in the future; but I must demur to the conclusion that a few exceptional and perhaps accidental cases are sufficient to condemn a whole system which, as I have already stated, can be proved to be productive of the utmost good to the human race and to animals in general. Then a very large number of these cases which are constantly presented to the public appear, so far as I can understand, to have occurred in somewhat a remote past, and I daresay that in the past some real cases of cruelty may be cited. But we now have to deal not with the history of vivisection, but with the operation of the system since the Act of 1876 was passed. Then, a great deal of misapprehension exists as to the extent to which vivisection is carried on. According to the last figures I have seen, which come down to the end of the year 1907, about 73,000 experiments were made in that year. But of these no less than 96½ per cent. were inoculations, hypodermic injections, and so on—that is to say, they did not involve operations of any kind, and, in a large majority of cases, were altogether painless. In the remaining 3½ per cent. the operation was always carried on under anæsthetics. The testimony of Professor G. D. Thane, the Government Inspector, is conclusive on this latter point. In his evidence before the Royal Commission he said that animals were always effectively anæsthetised. I should like also to draw above all, faulty nourishment, and we all know what extraordinary food is given sometimes to children in certain classes of society.

An inquiry into the causes of family diseases is a most difficult enterprise, for it must go carefully into the circumstances that may have modified the health of the parents before they conceived; it must include the question of opposition or synergy of hereditary taints; it must find out the possible disturbances of the maternal medium during pregnancy; it must examine the hygiene of the children, &c. All those points must be minutely investigated if we are to get at the truth. When all those causes have been brought to light we must go still deeper into the subject. We must try to find out why a given part of the system is attacked in preference to another, why in one case the muscles are involved, in another the posterior or the lateral columns of the cord, in another the cerebellum, in another the optic nerves. Then another problem remains to be solved: Why do the cells disappear at a certain age and not at another?

If we consider the nervous system we see that despite all the precautions taken by nature to place the nerve cells beyond the action of any traumatic or toxic influence they are still very fragile, for they feel the action of a few whiffs of chloroform, or a glass of alcohol, of a few centigrammes of morphine, of a few milligrammes of strychnine, or of prussic acid. Nothing is to prevent us from thinking that in the course of development there are thrown into the circulation of the individual, at certain periods of his life, substances that are very toxic to his nerve cells, as, for example, those cytolysins the existence of which we are just beginning to suspect. I am alluding now to the most powerful of the internal secretions, as, for example, those that are connected with the development of the genital system; the influence of these is such that puberty or castration brings about a veritable revolution in the system. Now, is it not chiefly at the time of puberty that the family diseases of the nervous system become manifest? Whether they be brought about in this way or by other means, heredity governs their etiology.

In my lectures on Heredity (1894) I have shown that family diseases represent veritable degeneration-stigmata in the race. Sachs, comparing between them all the family nervous diseases and considering them as caused by an arrest in the development of the centres (brain or cord) in one of their constituent parts, has defended the same opinion. That is why I think that for the purposes of a general classification these diseases should be grouped under the following heading: "Premature Physiological Senescence of Certain Organic Systems." On one hand one often sees, as I have already remarked, isolated and aberrant cases of these family diseases; on the other hand there are certain diseases which we never meet as family diseases or exceptionally so; such are "myelopathy," amyotrophic lateral sclerosis, &c.

This physiological senescence is quite independent of any external factor; its date of onset varies with different subjects. It may be premature; that is, it may manifest itself at a period of life which is not that of normal senescence of the individual. I do not think this process is limited to the large group of family diseases of the nervous system nor even to that of family and hereditary diseases considered as a whole. I am convinced that this is a very far-reaching process which deserves to be placed on a par with intoxication and infection, the two factors which nowadays govern medical pathology.

Duclaux has rightly said of heredity that it is the great force which governs the world. To us physicians morbid heredity should be as a breviary always open in front of us to instruct us with all possible certainty as to the prospects of a given case as regards its evolution, its termination, its possible consequences for the individual or for his descendants.

In this the country of Darwin who has worked out with such sagacity the laws of normal heredity (and those of morbid heredity are the same), I need not insist on this fact that the stigmata or defects of the parents or of the ancestors are transmitted, weakened or strengthened, to the descendants. This pathological heredity, however, is not necessarily fatal. By proper measures we can prevent its consequences all the more effectively that we have penetrated more deeply in the intimate process of degeneration especially in its relationship with internal glandular secretions and with general nutrition.

Meanwhile we should be fully impressed and we should impress others with the principle that to prevent diseases due to degeneration we must only allow marriage between fit individuals who seek in marriage not wealth, but health. Physicians should never tire of repeating and spreading this truth. We must teach it to all, rich and poor, and never will compulsory education be applied to a more important subject.

[Dr. Raymond concluded his address with a commemoration of many distinguished men who have worked in the field of English neurology.]

THE PUBLIC TELEPHONE CALL OFFICE AS A FACTOR IN THE SPREAD OF DISEASE.

By Francis J. Allan, M.D. Edin., D.P.H. Cantab.,
Medical Officer of Health of the City of Westminster.

Under the above heading there appeared in The Lancet of July 27th, 1907 (p. 240), an annotation, in the course of which the two following sentences occur:—

> The telephone call station may be described, in fact, as a bacteriological box in which pathogenic and other organisms are carefully nursed.
>
> Caller after caller thus either may infect or receive infection so long as no steps are taken to purify the air within the station.

More recently, in The Lancet of March 14th, 1908, a correspondent supplied a number of specific instances of dirty call-boxes and instruments in London and many parts of the country. In two instances the mouthpieces were described as "dripping condensation from the breath of previous users," while the disgusting smell of certain of the call-boxes was such that your correspondent promptly left and went elsewhere.

The experience of all users of public telephones will doubtless be in agreement with that of your correspondent. One can scarcely picture a more suitable place for harbouring organisms of all kinds than a dark telephone call box with its stagnant air and dirty floor, the dust of which is brought in from the street and stirred up and inhaled by each fresh caller. There is, moreover, the risk that organisms of a pathogenic character may be left behind by persons suffering from such complaints as diphtheria, influenza, or consumption. In order to test the correctness of this assumption Professor Klein has been engaged in the examination of swabs taken from the mouthpieces of transmitters in public call boxes and has been good enough to hand me the results of his inquiry. In five of the six mouthpieces tested the results obtained were negative as regards tubercle, but the examination of the sixth swab revealed the presence of typical tubercle bacilli. Professor Klein's report is as follows:—

> Telephone No. —, P.O. Central. This swab had attached to it a mass of whitish-grey viscid substance. When examined in stained films it showed a number of acid fast bacilli in shape and size like tubercle bacilli. Two guinea-pigs were injected with this material—Guinea-pig A peritoneally, Guinea-pig B subcutaneously. A was killed after 23 days, and on post-mortem examination two tubercles were found in omentum; spleen enlarged, with several tubercles; liver showed a few white dots. Film specimens made of the tubercles of the omentum and of the spleen showed typical tubercle bacilli. B was killed after 27 days. P.M.—The inguinal glands much enlarged, caseous, and purulent; spleen enlarged with numerous tubercle bacilli. Result—typical tubercle.

"Thus the note of warning which you gave in the annotation to which I have already referred was fully justified." As these call-boxes are at present constructed and situated it is difficult to imagine how in the absence of regular disinfection and cleansing they can be anything but breeding grounds for germs. No doubt it is difficult to construct call-boxes which shall be efficiently ventilated and at the same time prevent outside sounds penetrating and conversation being overheard but it ought not to be an insuperable difficulty. The other condition which you mention that the boxes should be kept bacterially clean presents no difficulty. Soap and water are always available while the thorough spraying of the box and the instrument with an approved disinfectant solution once a day might be carried out with very little labour and at a trifling expense. I am given to understand that by arrangement with the Post Office the whole of the London Stock Exchange telephones, some 40 or 50 in number, are sprayed daily with a disinfectant.

In view of the infective condition of many of the public

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are some of the principal amounts received at the Mansion House, or notified directly to us as having been collected, on behalf of the Metropolitan Hospital Sunday Fund up to Tuesday evening last, when the sum paid in exceeded £10,000.

	£	s.	d.
St. Michael's, Chester-square	1157	0	0
William Herring, Esq.	1000	0	0
Rt. Hon. Sir Savile Crossley, Bart., P.C.	500	0	0
St. Paul's Cathedral	403	0	0
St. Nicholas, Chislehurst	357	0	0
Messrs. Watts, Watts, and Co.	210	0	0
Delta	200	0	0
A. G. P.	200	0	0
All Souls', Hampstead	153	0	0
Aldenham Parish Church	128	0	0
St. Andrew's Presbyterian Church, Frognal	110	0	0
W. D. Graham-Menzies, Esq.	100	0	0
Alex. Miller, Esq.	100	0	0
Mrs. Fleischmann, In Memoriam F. C. K. Fleischman, Esq.	100	0	0
Norman McCorquodale, Esq.	100	0	0
Lt.-Col. More-Nisbett	100	0	0
Charles Morrison, Esq.	100	0	0
F. G. D.	100	0	0
Brompton Oratory	92	0	0
St. Augustine's Church, Highbury	81	0	0
St. Mary, Shortlands	81	0	0
Weybridge Parish Church	75	0	0
St. George's, Perry-hill, Catford, S.E.	62	0	0
Pan-Anglican Congress Committee (Albert Hall meeting)	60	0	0
St. Luke's, Redcliffe-square, S.W.	59	0	0
J. H. Vavasseur and Co.	52	10	0
Miss M. E. Druce	50	0	0
G. P. Gooch, Esq	50	0	0
Mrs. Gooch	50	0	0
Mrs. Kenneth M. Clark	50	0	0
Mrs. E. F. Jowers	50	0	0
Mrs. Frances M. Brook	50	0	0
St. James's, Clapham Park	50	0	0
St. Augustine's, South Kensington	50	0	0
Carmelite Church, Kensington	49	0	0
Old Malden Parish Church	47	0	0
Ferme Park Baptist Church	47	0	0
Crouch Hill Presbyterian Church	45	0	0
St. John's Presbyterian Church, Kensington	42	0	0
St. Matthew's, Westminster	40	0	0
St. George's, Bloomsbury	37	0	0
St. John's, Sidcup	35	0	0
Royal Military Chapel, Wellington Barracks	35	0	0
St. Philip's, Sydenham	34	0	0
St. Mary the Virgin, Hayes, Kent	34	0	0
St. Mildred's, Lee, S.E.	32	0	0
C. W. Drabble, Esq.	32	0	0
St. Andrew's Presbyterian Church, Upper Norwood	30	0	0
Park Chapel, Crouch End, N.	30	0	0
St. Mary the Virgin, Primrose Hill	28	0	0
St. Michael's, Stockwell Park-road, S.W.	28	0	0
St. Gabriel's, Willesden Green, N.W.	28	0	0
St. Mary Magdalene, Enfield	25	0	0
Miss H. C. Gabriel	25	0	0
Russell D. Walker, Esq.	25	0	0
St. Andrew, Alexandra Park	25	0	0
St. Thomas's, Clapton Common, N.E.	24	0	0
St. Peter's, Dulwich Common	24	0	0
Mitcham Parish Church	23	0	0
Lamorbey Parish Church	23	0	0
Epsom Parish Church	23	0	0
Holy Trinity, Lamorbey, Sidcup	22	0	0
St. James's, Knatchbull-road	22	0	0
Church of the Ascension, Lavender-hill, S.W.	22	0	0
Francis Beckitt, Esq.	21	0	0
Vintner's Company	21	0	0
In Memoriam, Crosby Lockwood	21	0	0
Miss Oliverson	20	0	0
Lady Northwick	20	0	0
St. Mary's, Cuddington, Worcester Park	20	0	0
Lady Georgina Stewart	20	0	0
St. Barnabas with St. Silas, South Kensington	20	0	0
Royal Hospital Chapel, Chelsea	18	0	0
Chelsea Old Church	17	0	0
St. Matthias, Upper Tulse Hill, S.W.	15	0	0
Wimbledon Wesleyan Church, Worple-road	14	0	0
Holy Trinity, South Wimbledon	14	0	0
St. Saviour's, Walthamstow	12	0	0
Barry-road Wesleyan Church	12	0	0
St. Paul's, Woodford Bridge	11	0	0
Hinde-street Wesleyan Church	11	0	0
Holy Innocent's, Hornsey, N.	10	0	0
St. Giles the Abbot, Farnborough, Kent	10	0	0
St. Thomas's, Camden Town, N.W.	10	0	0
	10	0	0

MEDICINE AND THE LAW.

Delusions not Affecting Testamentary Capacity.

Mr. Justice Bargrave Deane recently gave judgment in an action respecting the validity of a will made by Mrs. M. Govett, a lady who died in July, 1907, in her 84th year, the case being interesting on account of the clearness with which the issue was raised and as illustrating the distinction between delusions which affect the validity of a will and those which do not. The testatrix made a will in 1906 under which a nephew was made residuary legatee and which he propounded. There was no question of her testamentary capacity before Easter, 1904, and before that date, in 1900, she had made another will in favour of other relatives who put it forward, asking to have the one made in 1906 set aside. They alleged that when the second will was made Mrs. Govett was suffering from delusions, among which were the following: that people were constantly robbing her; that she saw thousands of little birds with long tails clinging to the trees in her garden; also hundreds of cats; that the illness of a neighbour had been caused by an octopus looking in at the window; that she saw curious figures come from behind a picture and various other strange animals in the garden. There was evidence that at about Easter, 1904, she had suffered from a cold and bronchitis, and also had had at that time a slight paralytic stroke, after which she was not in the same health as before, becoming gradually worse until her death. His lordship in giving judgment said that the probate court did not regard a mere delusion which did not affect the testamentary dispositions of the person suffering from it in the same light as one with regard to an individual who might be prejudiced by it in the will. There were many people in the world suffering from delusions which were not testamentary delusions and the line to be drawn between delusions and beliefs which would not be so-called was a very thin one. Some people believed things absolutely which others declared to be utter nonsense and it was necessary therefore to look carefully at the nature of the delusions alleged in any case such as that before him. In commenting on the alleged delusions of Mrs. Govett he mentioned that the eyesight of the testatrix had been said to have failed her and stated that he did not consider the delusions as described before him to be testamentary delusions. He also referred to evidence given by six nurses who at various times had attended the deceased, two of whom had had experience of mental cases, and all of whom had given evidence in favour of her testamentary capacity. These had laughed at the idea of delusions, and had used the expression that the deceased used to "fancy" this or that which he regarded as a more appropriate manner of defining her mental condition than the use of the word delusion. He also referred to evidence given by the nurses to the effect that the testatrix used to know of her own accord when the time came for paying them and used to pay them herself, insisting upon a receipt when doing so. He pronounced accordingly for the will of 1906, being of opinion that the allegation that at that time the deceased was not of testamentary capacity had not been established. He considered, however, that the question had been quite properly raised and allowed the unsuccessful parties their costs.

Evidence as to Ability to Work.

It was recently held by the Supreme Court of Nebraska (Young v. Beveridge) that the ability of a person to perform manual labour is not a matter so exclusively within the domain of medical testimony that lay witnesses, who are acquainted with the injured workman and who have opportunities of observing his ability, cannot give evidence with reference thereto. This ruling is of importance in claims under workmen's compensation legislation. The rule is said to be that the actual condition of a person's health must be established by skilled medical witnesses, but that the apparent physical condition of any person where that fact is an issue may be proved by other witnesses who have had occasion to observe such condition.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on June 18th, Mr. HENRY MORRIS, the President, being in the chair.

A report was received from the Board of Examiners in Anatomy and Physiology for the Fellowship stating that at the recent examination 114 candidates presented themselves and of these 43 passed.

A report was received from the Court of Examiners respecting candidates found qualified for the Diploma of Fellow; it stated that of the 63 candidates who presented themselves 22 were successful, three of whom had not yet attained the age of 25 years. It was resolved to issue attention to the evidence of Professor E. H. Starling, who is not only an eminent scientist, but also, I believe—though I have not the pleasure of his personal acquaintance—a man noted for his extreme sensitiveness as regards the infliction of pain to animals. Speaking before the Royal Commission he said: "Though I have been engaged in the experimental pursuit of physiology for the last 17 years, on no occasion have I ever seen pain inflicted in any experiment on a dog or cat, or, I might add, a rabbit, in a physiological laboratory in this country, and my testimony would be borne out by that of anyone engaged in experimental work in this country." It would be easy to dilate at greater length upon this subject, but I think I have said enough. Broadly speaking, I maintain that the small amount of pain and suffering caused by experiments on living animals is a price which may justifiably be paid for the enormous amount of pain and suffering which is prevented or relieved. Before many months are over I trust Lord Selby's Commission will have reported. The composition of that Commission must of necessity carry great weight with all of us. I cannot, of course, anticipate what the Commissioners will say. Whatever they may report they will give all of us who are interested in this subject an opportunity of revising our opinions by the light of the very careful inquiry which they have conducted. They may show that further restrictions are required in the interests of humanity or, on the other hand, they may show that some relaxation of restriction is necessary in the interests of science. In the meanwhile, I may conclude by saying that I esteem it a privilege to be the President of this society and to be thus closely connected with a number of very distinguished and humane men who in the interests of science and in their persistent endeavours to relieve the sufferings of humanity have exposed themselves to a great deal of very unjust obloquy.

Sir THOMAS BARLOW proposed the following motion:—

> That the Research Defence Society be and is hereby constituted to make generally known the facts about experiments on animals in this country and the regulations under which they are conducted; the immense importance of such experiments to the welfare of mankind; and the great saving of human life and health which is already due to them.

He said that as a member of the rank and file of the practising part of the medical profession he was glad of the opportunity of showing absolute sympathy with those who devoted their lives to research, and he wished to express appreciation for the invaluable help which the practising part of the medical profession derived from their brethren who performed experiments from whom they received power and strength in their work. The society had determined to come right down into the open and to put everything on the table so as to let the British public know the kind of work done, the care that was being taken, the kinds of experiments being made and their bearing on practical medicine and surgery. The society did not exist for the promotion of vivisection, it did not put forward any panacea for all the ills the world was heir to, but it had been founded for the purpose of showing to the public the true relation between experiments on animals and the scientific study of disease. The society wished to insist on the public appreciating the proper place that was taken by experimental study and investigation and its work would be to make people understand things in their true relations and see exactly what the bearings of experimental investigation were on the whole science of medicine and surgery. The history of medicine as a healing art contained much that was humbling. Advances had often been due to "happy flukes" and until recent times medicine had been to a great extent empirical, being even now overladen with useless and even dangerous empiricism. Those encumbrances could only be removed by the scientific study of the natural history of man and of the natural history of disease. He showed how the gradual acquisition of knowledge had helped forward the progress of medicine in regard to the study and treatment of fevers and he quoted it as an example of the fact that knowledge comes step by step and the immediate application of it was not always obvious. Amongst the many benefits which Mr. Joseph Chamberlain conferred when at the Colonial Office was his work in tackling the great problem of tropical disease. It was impossible for anyone who felt the solemnity of the facts he had submitted to the meeting to do anything that would hinder the progress of experimental investigation which that society had been formed to defend.

Lord ROBERT CECIL, who seconded the motion, said that he desired to ask their opponents what was the fundamental basis of their opposition to the cause defended by the society. It would, he thought, be conceded by almost everyone that for adequate cause it was lawful to take the life of animals other than man but so far as he could ascertain the contention of their opponents was that pain must not be inflicted upon animals for the benefit of human beings. If that was their case, what were the consequences in which they were landed? All sport must be instantly condemned together with the riding and driving of horses, including even the beating of disobedient dogs. On what possible grounds, too, could the imprisonment for life of animals in the Zoological Gardens be defended? It had been clearly shown that many of the most valuable of pain-saving discoveries owed their existence to vivisection, but he argued that the cause of the society did not rest on that ground. He maintained that if there was even a reasonable probability that experiments on living animals conduced to the saving of human life and the diminution of human pain then they were abundantly justified. Animals were not on the same plane as human beings and if the treating of animals with kindness involved the treatment of human beings with unkindness those who upheld such a method were guilty of a grave dereliction from morality.

The motion was put to the meeting and carried unanimously.

Mr. WALTER H. LONG, M.P., then proposed the following motion:—

> It shall be among the objects of the society to establish branch societies, and to take such steps as the committee may from time to time think advisable in the interests of science.

He said that in the course of his official life he had worked in two Government departments with which the work of the society was connected. He did not regret but was proud of what he had been able to do in those two departments in furthering the great cause of science and in helping the work of lessening suffering in the lower animals and of prolonging life and of preventing diseases by methods derived from discoveries which had brought such unspeakable relief to the human race. He described how rabies had been stamped out while he was at the head of the Local Government Board and declared that that Board would never have embarked on that enterprise had it not been for the knowledge of the experts employed in experimental investigation on whose advice it was able to rely.

Dr. C. J. MARTIN, Director of the Lister Institute, in seconding the motion, which was unanimously agreed to, stated that the progress in the study of cancer was not realised by the public, and he observed that it was not generally known that one out of every eight women or 11 men who reached the age of 35 years was, according to the Registrar-General's Return for 1905 and 1906, fated to die from cancer.

Mr. H. T. BUTLIN moved a cordial vote of thanks to the chairman and in the course of his remarks refuted the allegation that those who were engaged in experimental research became callous in consequence of the experiments which they had performed.

The Hon. SYDNEY HOLLAND, who seconded the vote of thanks, declared that though they were not all researchers, nevertheless they were all searchers after truth.

Lord CROMER, in acknowledging the vote of thanks, referred to the energetic manner in which the society had been organised under the able direction of Mr. Stephen Paget.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on June 18th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The following announcements were made in reference to the lectures to be delivered before the College:—

The Gulstonian lectures for 1909 would be delivered by Dr. A. E. Russell; the Lumleian lectures by Dr. Norman Moore; the FitzPatrick lectures by Sir T. Clifford Allbutt; the Oliver-Sharpey lectures by Professor C. Scott Sherrington (Liverpool); and the Croonian lectures for 1910 by Dr. Arthur Gamgee.

A discussion then ensued on a matter which was declared to be *secreta collegii*.

The PRESIDENT dissolved the Comitia.

make it a common practice to apply as out-patients of St. Thomas's Hospital, and procure, by false representations, pills containing the sulphate of quinine, which, on their return, they retail with considerable profit, as the '*Thomas's Hospital Pills*,' to their aguish neighbours, amongst whom they are in great request. This extensive and disgraceful fraud (he adds), I conceive, deserves some inquiry on the part of the medical officers of the hospital, who have been most shamefully imposed upon, to the injury of the institution, and many medical practitioners."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9402 births and 3622 deaths were registered during the week ending June 20th. The annual rate of mortality in these towns, which had declined in the seven preceding weeks from 15·7 to 11·8 per 1000, further fell to 11·6 in the week under notice. During the first 12 weeks of the current quarter the annual death-rate in these towns averaged 14·0 per 1000, and in London during the same period it did not exceed 13·5. The lowest annual death-rates in the 76 towns during the week under notice were 5·0 in Barrow-in-Furness, 5·1 in Devonport, 5·6 in Hornsey, and 6·6 in Stockport; the rates in the other towns ranged upwards to 16·3 in Salford, 18·2 in Wolverhampton, 18·6 in Wigan, and 20·5 in Oldham. The death-rate in London during the week did not exceed 10·8. The 3622 deaths in the 76 towns during the week showed a further decline of 56 from the numbers returned in recent weeks, and included 299 which were referred to the principal epidemic diseases, against 355 and 324 in the two previous weeks; of these 299 deaths, 86 resulted from measles, 68 from whooping-cough, 64 from diarrhœa, 35 from diphtheria, 31 from scarlet fever, and 15 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to a mean annual rate of 1·0 per 1000 in the 76 towns, against 1·1 and 1·0 in the two preceding weeks; the rate from these diseases in London did not exceed 0·8 per 1000. No death from any of these epidemic diseases was registered last week in Halifax, St. Helens, York, Willesden, Leyton, or in nine other smaller towns; the annual death-rates from these diseases ranged upwards, however, to 2·5 in Wolverhampton and in Norwich, 2·8 in Salford, and 3·1 in Aston Manor. The fatal cases of measles in the 76 towns, which had been 84 and 89 in the two previous weeks, declined again to 86 in the week under notice, but caused death-rates of 1·1 per 1000 in Swansea and 1·5 in West Ham. The deaths from whooping-cough also declined last week to 68 from 103 and 100 in the two preceding weeks; the death-rate from this disease did not reach 1·0 per 1000 in any of the 76 towns. The fatal cases of diarrhœa, which had been 68 and 63 in the two previous weeks, were 64 last week; they included 20 in London, seven in Manchester and Salford, and four in Liverpool. The 35 deaths from diphtheria exceeded the number in the previous week by three, and included five in Bristol, three in Manchester and Salford, and two in Wolverhampton. The 31 fatal cases of scarlet fever also showed an increase and caused death-rates equal to 1·1 in Swansea and 1·2 in Aston Manor. Three of the 15 deaths from "fever" occurred in Norwich and were equal to a rate of 1·3 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined in the seven preceding weeks from 2938 to 2600, had further fallen to 2565 on June 20th; 310 new cases were admitted to these hospitals during the week under notice, against 291 and 289 in the two preceding weeks. The deaths in London referred to pneumonia and to other diseases of the respiratory organs, which had steadily declined in the eight preceding weeks from 201 to 128, further fell to 115 in the week under notice, and were 34 below the corrected number in the corresponding week of the five years 1903-07. Eight deaths were directly referred to influenza during the week in London, against but two in the previous week. The causes of 35, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in London, Leeds, West Ham, Bradford, Newcastle-upon-Tyne, Hull, and in 51 smaller towns; ten uncertified causes of death were, however, registered last week in Liverpool, four in Birmingham, and three in Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 15·5, 14·3, and 13·2 per 1000 in the three preceding weeks, rose again to 14·7 in the week ending June 20th. During the first 12 weeks of the current quarter the annual death-rate in these eight towns averaged 16·6 per 1000, and exceeded by no less than 2·6 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 10·0 and 11·0 in Aberdeen and Paisley, to 16·0 in Glasgow and 16·7 in Greenock. The 517 deaths in the eight towns showed an increase of 53 upon the number in the previous week, and included 51 which were referred to the principal epidemic diseases, against 30 and 42 in the two preceding weeks; of these 51 deaths, 20 resulted from whooping-cough, 13 from measles, ten from diarrhœa, five from "fever," two from scarlet fever, and one from diphtheria, but not one from small-pox. These 51 deaths were equal to an annual rate of 1·4 per 1000, the mean rate from the same diseases in the 76 English towns during the same week being 1·0. The 20 fatal cases of whooping-cough showed an increase of nine upon the number in the previous week, and included 11 in Glasgow, four in Edinburgh, three in Dundee, and two in Paisley. The deaths from measles, which had been five and ten in the two preceding weeks, further rose to 1·3 in the week under notice, of which nine occurred in Glasgow and two in Leith. The ten deaths attributed to diarrhœa were fewer by two than the number in the previous week; eight were returned in Glasgow. The deaths referred to "fever" in the eight towns, which had been but three and two in the two preceding weeks, rose to five last week, all of which occurred in Glasgow; four were certified as cerebro-spinal meningitis and one as enteric fever. The fatal cases of scarlet fever and of diphtheria were fewer than in any recent week. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 85, 75, and 51 in the three preceding weeks, rose again to 73 in the week under notice, but were 13 below the number returned in these towns in the corresponding week of last year. The causes of 25, or 4·8 per cent., of the deaths registered in the eight towns during the week were not stated or not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 15·9, 16·5, and 19·2 per 1000 in the three preceding weeks, declined again to 16·5 in the week ending June 20th. During the first 12 weeks of the current quarter the death-rate in Dublin averaged 20·7 per 1000; the mean rate during the same period did not exceed 13·5 in London and 15·5 in Edinburgh. The 125 deaths of Dublin residents registered during the week under notice showed a decline of 20 from the number returned in the previous week, and included 14 which were referred to the principal epidemic diseases, against but nine and six in the two preceding weeks. These 14 deaths were equal to an annual rate of 1·9 per 1000, the rate during the week from the same causes being only 0·8 in London and 0·9 in Edinburgh. Of the 14 deaths from these epidemic diseases in Dublin, five resulted from measles, four from diarrhœa, three from whooping-cough, and two from diphtheria, but not one from scarlet fever, "fever," or small-pox. The fatal cases of measles, diarrhœa, and whooping-cough all showed an increase upon the low numbers returned in recent weeks. The 125 deaths from all causes in the city during the week included 21 of infants under one year of age and 28 of persons aged upwards of 60 years; both these numbers showed a decline from the numbers in the previous week. One inquest case and two deaths from violence were registered, and 49, or 39·2 per cent., of the deaths occurred in public institutions. The causes of five, or 4·0 per cent., of the deaths registered during the week were not certified. The causes of all the 990 deaths registered in diplomas of Fellowship to the remaining 19 successful candidates.

In accordance with a report from the Court of Examiners it was resolved to recognise the *Dreadnought* Hospital, Greenwich, for the additional year of surgical hospital practice required in the case of candidates for the Fellowship who are not Members of the College, and it was also resolved to place Laval University, Quebec, McGill University, Montreal, and the Italian Royal Universities on the list of Universities the degrees of which are accepted as qualifying for admission to the Final Examination for the diploma of Fellow.

It was resolved to issue diplomas of the Licence in Dental Surgery to four successful candidates.

In response to an invitation from the Pharmacopœia Committee of the General Medical Council it was resolved to send certain suggestions for the new pharmacopœia recommended by the special committee.

The following examiners were appointed:—Elementary Biology: James P. Hill and Thomas W. Shore. For the Conjoint Examining Board: Anatomy, W. H. Clayton-Greene, Arthur Robinson, and William Wright; and Physiology, Bertram L. Abrahams and J. Beresford Leathes. For the First Fellowship Examination: Anatomy, W. McAdam Eccles, Frederick G. Parsons, Arthur Thomson, and A. H. Young; and Physiology, T. G. Brodie, G. A. Buckmaster, C. F. Myers-Ward, and W. H. Thompson. For the Conjoint Examining Board: Midwifery, H. J. M. Playfair, W. R. Pollock, J. H. Targett, and W. W. H. Tate. For the Diploma in Public Health: Part I., H. R. D. Spitta; and Part II., H. T. Bulstrode. Mr. W. F. Haslam was re-elected a member of the Court of Examiners.

A letter was read from the President reporting the proceedings of the General Medical Council at its recent session. The best thanks of the Council were given to the President.

A letter addressed to the President was read from the Director-General of the Survey Department of the Egyptian Government asking that facilities might be given to Dr. G. Elliot Smith and Dr. Wood Jones of the Cairo Medical School to carry out in the Museum of the College an examination of a collection of material found in the course of excavations made in the Nile Valley and representing the varied races of people who inhabited Nubia in ancient times, together with their pathology and the results of their surgery, and stating that the Egyptian Government would offer to the Museum of the College the collection of material sent over for the purpose of this comparative study.

The PRESIDENT stated that he had informed the Director-General of the Egyptian Survey Department that facilities would be given to Dr. Elliot Smith and Dr. Wood Jones to carry out their investigations and that he felt sure the Council would gladly accept the handsome offer of the Egyptian Government.

It was resolved to inform the Egyptian Goverment that the Council would regard the collection of specimens as a most valuable addition to the Museum and would accept it with grateful thanks.

The PRESIDENT reported that he had undertaken to place a room at the College at the disposal of the authorities of the Imperial Cancer Research Fund for their annual meeting on July 14th, when the Duke of Bedford will be in the chair.

A committee was appointed to report on the answers received from the Fellows and Members regarding the admission of women to examination for the diplomas of the College.

A letter was read from Mr. Reginald J. E. Hanson, honorary secretary of "Lord Roberts's Boys" (City of London Schoolboys' Shooting Club), inclosing an account of two years' experimental work in physical training and stating that an expression from the College of an opinion on the great national value of a uniform and universal system of cadet training throughout the Empire would at this critical juncture be of great value to the national defence scheme. The President and Vice-Presidents were requested to draw up a reply.

A letter was read from Mr. J. W. Batterham, F.R.C.S., reporting that Mr. Thomas Lambert Hinton, who became a Member of the College in the year 1833, died at St. Leonards-on-Sea on June 14th at the advanced age of 100 years and 45 days.

The PRESIDENT reported that a meeting of Fellows would be held at the College on July 2nd for the election of four Fellows into the Council.

A committee was appointed to combine with any committee which might be appointed by the Royal College of Physicians of London for the same purpose to consider and draft a scheme which, if approved by the Colleges, should be submitted to the Senate of the University of London with the object of establishing a system of conjoint examination for the degrees of M.B. and B.S., and the diplomas of L.R.C.P. Lond. and M.R.C.S. Eng.

A suggestion was considered regarding the possibility of giving a reception at the College to the French medical practitioners who propose to visit this country from June 30th to July 2nd after the congress at Lille. Owing to the proposed arrangements of the visit and official engagements at the College it was found impossible to arrange a formal reception but facilities are to be given to the delegates for viewing the Museum and other parts of the College buildings.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between June 13th and 19th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscriber of Two Guineas.

Sir Stephen Mackenzie, Dorking.

Subscribers of Two Pounds.

Burnley Division of British Medical Association, per James Gardner

Subscribers of One Guinea.

D. Arthur Davies, Swansea.
J. J. Macan, Cheam, Surrey.
John Myles, Dolgelly.
J. Herbert Simpson, Rugby.

Subscribers of Half-a-Guinea.

James Allan, Leeds.
G. MacLellan Blair, London.
Frank Savery, Ealing.

Subscriber of Ten Shillings.

Alfred Bethell, Lambourn, Berks.

Subscribers of Five Shillings.

H. A. Browning, Surgeon, R.N.
W. Joberns, Wolverhampton.

Subscriber of Half-a-Crown.

C. Smith, Leeds.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 26th, 1830.

BEDFORD AND NORTHAMPTON INFIRMARIES.—*A Bedfordshire Surgeon* complains, that to add to the many other disadvantages under which the members of the profession in his neighbourhood labour, "the house-surgeons of the Northampton and Bedford Infirmaries have of late taken to vaccinate gratuitously all persons who have thought proper to apply to them. The example was first set at the former hospital, and is now followed by the latter. It is no unusual circumstance (he adds) to see wagon-loads of children sent from the different parishes to be vaccinated at the infirmary, the whole parish not subscribing perhaps more than 2*l.* per annum to the institution. To such an extent is this practice adopted, that Mr. Marsh, house-surgeon to the Northampton Infirmary, in the course of a few months, vaccinated no less than 10,000 individuals, for which the liberal directors of the institution, with the Marquis of Northampton at their head, voted *him* the handsome present of 5*l.* from the funds of the hospital! These glaring injuries to the profession ought to be stopped; while young men are compelled to submit to all the drudgery of the dispensary, it is really hard that the more advanced practitioners, viz. the physicians and surgeons of these institutions, should do everything to prevent their obtaining honourable modes of living." If an excuse can be found for indiscriminate gratuitous practice in any branch of the medical profession, it certainly is offered in disseminating the protecting principle of the vaccine virus against the horrid ravages of the small-pox.

FRAUDS ON ST. THOMAS'S HOSPITAL.—*Mr. Dewhurst* informs us, that there are many persons residing in the neighbourhood of *Plumstead, in Kent,* "who

London during the week were duly certified, while in Edinburgh the proportion of uncertified causes of death was 7·0 per cent.

VITAL STATISTICS OF LONDON DURING MAY, 1908.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·2 per 1000 of the population, estimated at 4,795,757 persons in the middle of the year; in the three preceding months the rates were 7·8, 6·8, and 6·1 per 1000 respectively. The lowest rates last month were recorded in Kensington, Hammersmith, Chelsea, Stoke Newington, and Finsbury; and the highest rates in Hackney, Bethnal Green, Stepney, Poplar, and Deptford. A slight increase in the prevalence of scarlet fever was recorded last month; among the various metropolitan boroughs this disease was proportionally most prevalent in Hackney, Bethnal Green, Stepney, Poplar, and Deptford. The Metropolitan Asylums hospitals contained 2707 scarlet fever patients at the end of last month, against 3591, 3150, and 2868 at the end of the three preceding months; the weekly admissions averaged 342, against 410, 336, and 319 in the three preceding months. Diphtheria was less prevalent in May than in any previous month of this year; the greatest proportional prevalence of this disease was recorded last month in the City of London, Bethnal Green, Wandsworth, Lewisham, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums hospitals, which had been 1184, 1081, and 872 at the end of the three preceding months, had further declined to 804 at the end of last month; the weekly admissions averaged 105, against 149, 131, and 107 in the three preceding months. The prevalence of enteric fever also was less than that recorded in any other recent month; among the several boroughs the greatest proportional prevalence of this disease last month was recorded in Westminster, Finsbury, Shoreditch, Stepney, Bermondsey, and Wandsworth. There were 45 enteric fever patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 79, 73, and 45 at the end of the three preceding months; the weekly admissions averaged seven, against ten, ten, and seven in the three preceding months. Erysipelas was proportionally most prevalent in Shoreditch, Bethnal Green, Stepney, Bermondsey, Battersea, and Deptford. The 14 cases of puerperal fever notified during the month included three in St. Marylebone, two in Hampstead, and two in Poplar. Of the ten cases notified as cerebro-spinal meningitis two belonged to Bethnal Green, two to Lambeth, and one to each of six other boroughs.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending May 30th the deaths of 4486 persons belonging to London were registered, equal to an annual rate of 12·2 per 1000; in the three preceding months the rates were 17·4, 16·1, and 14·9 per 1000. The death-rates last month in the several boroughs ranged from 8·4 in Stoke Newington, 9·1 in Hampstead, 9·2 in Lewisham, 9·3 in Wandsworth, and 10·3 in Camberwell, to 14·1 in Shoreditch and in Stepney, 14·7 in Finsbury, 14·9 in Bermondsey, 15·4 in Southwark, and 15·6 in Poplar. The 4486 deaths from all causes included 332 which were referred to the principal infectious diseases; of these, 132 resulted from measles, 35 from scarlet fever, 31 from diphtheria, 85 from whooping-cough, six from enteric fever, and 43 from diarrhœa, but not any from small-pox, from typhus fever, or from ill-defined pyrexia. No death from any of these diseases was registered last month in the City of London; among the metropolitan boroughs they caused the lowest death-rates in Paddington, Chelsea, St. Marylebone, Hampstead, and Islington; and the highest rates in Hackney, Finsbury, Stepney, Poplar, Southwark, Lambeth, and Battersea. The 132 deaths from measles were 103 fewer than the corrected average number in the corresponding periods of the five preceding years; the greatest proportional mortality from this disease last month was recorded in Hackney, Finsbury, Shoreditch, Stepney, Poplar, and Battersea. The 35 fatal cases of scarlet fever showed no appreciable variation from the average number; this disease was proportionally most fatal in Fulham, Poplar, Bermondsey, Lambeth, and Camberwell. The 31 deaths from diphtheria were 14 below the corrected average; among the metropolitan boroughs the highest death-rates from this disease were recorded in Paddington, Hackney, Stepney, Poplar, Southwark, Bermondsey, and Lewisham. The 85 fatal cases of whooping-cough showed a decline of 70 from the average number in the corresponding periods of the five preceding years; whooping-cough was proportionally most fatal last month in Hackney, Stepney, Poplar, Southwark, Lambeth, and Battersea. The six deaths from enteric fever were equal to only half the average number; of these six deaths, two belonged to St. Pancras and one each to Hackney, Poplar, Southwark, and Deptford. The 43 fatal cases of diarrhœa were 26 below the corrected average number; this disease showed the greatest proportional fatality in Hammersmith, Hackney, Stepney, Poplar, Battersea, and Lewisham. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases was 39·6 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 86 per 1000. No death at this age was registered in the City of London; among the metropolitan boroughs the lowest rates of infant mortality were recorded in Chelsea, St. Marylebone, Stoke Newington, Holborn, Finsbury, and Lewisham; and the highest rates in Kensington, Fulham, Stepney, Poplar, Bermondsey, Battersea, and Deptford.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

Captain William K. Steele to be Major (dated April 6th, 1908).

Colonel M. W. Kerin has been appointed Administrative Medical Officer at Tidworth, vice Colonel W. J. R. Rainsford, C.I.E., appointed to Plymouth.

THE TERRITORIAL FORCE.

Nursing Service.

The Army Council has decided to establish an Advisory Council which will frame rules for the admission of nurses into a nursing service for the general hospitals of the Territorial Force and make recommendations for the administration of the service and for the appointments of matrons and sisters. Her Majesty has become President of the Nursing Service and has approved of the appointment of the Duchess of Montrose as Vice-President. The council will consist of Surgeon-General Sir Alfred Keogh, K.C.B., K.H.P., Director-General, Army Medical Service (chairman), and the following members: The Duchess of Montrose (Vice-President), the Countess of Derby, the Countess of Jersey, the Lady Grenfell, the Lady Helen Munro Ferguson, Miss Haldane, Miss Cox-Davies, matron, Royal Free Hospital; Miss Hamilton, matron, St. Thomas's Hospital; Miss Hughes, Queen's Jubilee Institute; Miss McCall Anderson, matron, St. George's Hospital; Miss Ray, matron, King's College Hospital; Miss Vernet, Middlesex Hospital; Miss Sidney Browne, R.R.C., late matron-in-chief, Q.A.I.M.N.S. (secretary).

Sanitary Company for R.A.M.C. (2nd London Division).

At a meeting held on Thursday, June 18th, at the offices of the Metropolitan Asylums Board of the medical officers of the hospitals of the Board it was resolved, if possible, to raise a sanitary company of the Royal Army Medical Corps for the 2nd London Division.

The 4th County of London General Hospital.

Colonel Atwood Thorne, V.D., is organising the 4th County of London General Hospital with temporary headquarters at 148, Harley-street. There are vacancies for non-commissioned officers and men. Applications should be made to Colonel Thorne at 148, Harley-street, London, W.

DEATHS IN THE SERVICES.

Deputy Inspector General Henry Ashlin Close, R.N. (retired), on June 13th at Bedford. He entered the Navy in

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MAY, 1908.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1908.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,795,757	—	1425	501	2	46	—	14	284	10	2282	6·2	—	132	35	31	85	—	6	—	43	332	0·9	4486	12·2	86
West Districts.																										
Paddington	150,923	—	48	7	—	—	—	—	8	—	63	5·4	—	—	1	2	1	—	—	—	—	4	0·3	137	11·8	96
Kensington	182,752	—	30	15	—	1	—	—	12	—	58	4·1	—	6	—	—	1	—	—	—	2	9	0·6	156	11·1	105
Hammersmith	124,012	—	21	14	—	—	—	—	4	—	39	4·1	—	2	—	1	1	—	—	—	3	7	0·7	133	14·0	96
Fulham	171,562	—	37	17	—	2	—	1	9	—	66	5·0	—	5	2	—	4	—	—	—	1	12	0·9	148	11·2	107
Chelsea	75,049	—	10	7	—	—	—	—	3	—	20	3·5	—	1	—	—	—	—	—	—	—	1	0·2	67	11·6	53
City of Westminster	170,545	—	48	17	—	7	—	—	3	1	76	5·8	—	—	1	1	1	—	—	—	2	5	0·4	170	13·0	72
North Districts.																										
St. Marylebone	126,867	—	39	14	—	—	—	3	9	—	65	6·7	—	—	1	—	—	—	—	—	1	2	0·2	111	11·4	43
Hampstead	92,654	—	25	6	—	—	—	2	3	—	36	5·1	—	—	—	—	—	—	—	—	1	1	0·1	65	9·1	88
St. Pancras	237,075	—	73	14	—	2	—	1	8	—	98	5·4	—	—	1	1	4	—	2		—	8	0·4	240	13·2	70
Islington	349,091	—	98	22	—	1	—	1	14	1	137	5·1	—	1	2	2	3	—	—	—	—	8	0·3	278	10·4	81
Stoke Newington	54,015	—	6	7	—	—	—	—	2	—	15	3·6	—	2	—	—	1	—	—		—	3	0·7	35	8·4	58
Hackney	235,253	—	96	31	—	3	—	—	14	—	144	8·0	—	11	1	3	7	—	1	—	4	27	1·5	204	11·3	88
Central Districts.																										
Holborn	54,466	—	19	3	—	—	—	—	4	—	26	6·2	—	—	1	—	1	—	—	—	—	2	0·5	52	12·4	55
Finsbury	86,007	—	15	7	—	4	—	—	4	—	30	4·1	—	9	1	-	—	—	—	—	1	11	1·5	108	14·7	57
City of London	19,252	—	2	3	—	1	—	1	1	—	8	5·4	—	—	—	—	—	—	—	—	—	—	—	17	11·5	—
East Districts.																										
Shoreditch	115,227	—	33	15	—	2	—	—	10	1	61	6·9	—	6	—	—	—	—	—	—	1	7	0·8	125	14·1	89
Bethnal Green	131,066	—	60	21	—	1	—	—	11	2	95	9·5	—	5	1	1	1	—	—	—	1	9	0·9	141	14·0	102
Stepney	310,706	—	139	45	2	5	—	—	33	—	224	9·4	—	25	1	4	10	—	—	—	10	5	2·1	337	14·1	107
Poplar	171,516	—	85	15	—	2	—	2	10	1	115	8·7	—	12	5	2	8	—	1	—	4	32	2·4	205	15·6	114
South Districts.																										
Southwark	210,442	—	53	22	—	2	—	1	14	—	92	5·7	—	4	1	4	7	—	1	—	—	17	1·1	248	15·4	100
Bermondsey	127,910	—	25	11	—	3	—	1	10	—	50	5·1	—	3	2	2	1	—	—	—	1	9	0·9	146	14·9	105
Lambeth	321,344	—	85	24	—	2	—	1	14	2	128	5·2	—	11	6	1	9	—	—	—	2	29	1·2	326	13·2	78
Battersea	183,873	—	73	13	—	1	—	—	15	1	103	7·3	—	8	1	1	6	—	—	—	3	19	1·3	168	11·9	105
Wandsworth	289,506	—	72	48	—	6	—	—	14	1	141	6·4	—	6	1	—	5	—	—	—	2	14	0·6	206	9·3	86
Camberwell	280,022	—	63	15	—	1	—	—	13	—	92	4·3	—	7	3	1	5	—	—	—	—	16	0·7	221	10·3	65
Deptford	117,539	—	53	12	—	—	—	—	17	—	82	9·1	—	3	1	—	3	—	1	—	1	9	1·0	117	13·0	117
Greenwich	109,110	—	39	11	—	—	—	—	8	—	58	6·9	—	4	—	1	1	—	—	—	—	6	0·7	95	11·4	68
Lewisham	156,627	—	44	30	—	—	—	—	10	—	84	7·0	—	1	1	3	3	—	—	—	2	10	0·8	111	9·2	49
Woolwich	131,346	—	34	35	—	—	—	—	7	—	76	7·5	—	—	1	1	2	—	—	—	1	5	0·5	119	11·8	91
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

phthisis is used apart from pulmonary tuberculosis should be in connexion with a disease of the eye. The next generation of ophthalmic surgeons might usefully turn their attention to the reorganisation and revision of the terminology of their specialty, a revision, nevertheless, which is bound sooner or later to take place, in view of the fact that science is always destructive to sentiment.

Yours truly,
Wimpole-street, W., June 12th, 1908. PERCY DUNN.

THE SPIROGRAPH.

To the Editor of THE LANCET.

SIR,—Your reviewer has not yet escaped from the toils of his own weaving. Sandmann, in the article to which I have been referred, says: "I make my patients breathe against a plate of *glass*" (italics mine), in order to obtain a temporary glass picture. Glass being transparent, the breath-picture does not show up clearly on its surface. For a permanent record Sandmann used "pasteboard covered over with *slate-paper*" (italics mine). On this plate, an example of which I send herewith, the moisture in the breath does not readily condense, obviously because pasteboard is a non-conductor of heat. Consequently the powder used to fix the image *does not* adhere.

I quote now from Wingrave's letter to THE LANCET of Jan. 26th, 1907, p. 253: "Slate, glass, and polished metals all have their shortcomings, but I have found that *vulcanite* gives a faithful image" (italics mine). Wingrave's spirograph, an example of which I also inclose, shows up the breath-picture and takes the fine powder, used to make a permanent record, in a most satisfactory manner. Sandmann's methods with glass and slate were failures. Wingrave's methods with vulcanite are successful. Yet my critic would have us believe they were "precisely" the same!

It may be, Sir, that I have not spent so many years in the service of Rhinology as my critic has done, but I hope when I have reached his position that I shall be able to criticise the work of other men with sound knowledge and fair judgment.

I am, Sir, yours faithfully,
Stratford-place, W., June 11th, 1908. DAN MCKENZIE.

To the Editor of THE LANCET.

SIR,—Those interested in Dr. McKenzie's defence of Dr. Wingrave's claims should read Sandmann's paper, which will prove that I was entirely correct in my remarks.

I am, Sir, yours faithfully,
THE REVIEWER.

TANSINI METHOD FOR THE CURE OF CANCER OF THE BREAST.

To the Editor of THE LANCET.

SIR,—If Professor Purpura's pathological views are admitted, the Tansini method may possess claims to consideration as a means of filling up the gap produced by the removal of a large area of skin from the front of the chest. Even for this purpose, however, Thiersch grafting is, in my opinion, much to be preferred, for the Tansini flap is an ill-nourished one and is obtained by what is practically a severe additional operation. These, however, are minor details. My main objection to the method is that it is based upon an erroneous pathology, that it ignores the laws which govern the spread of a carcinoma by permeation, and that it unites extravagance with false economy. As Professor Purpura's letter shows, the belief that breast cancer spreads mainly in the plane of the skin, with the corollary that "it is necessary to remove as much skin as possible," can only be supported by reference to opinion and authority, and is a product, not of the laboratory, but of the library.

I have shown elsewhere that recurrence *in the skin after* the operation for breast cancer is nearly always due to inadequate removal of the underlying deep fascia—the layer in which the microscopic growing edge of the cancer is found. Both in the Halstead method and in the Tansini method, which is a plastic modification of Professor Halstead's, removal of the deep fascia over the required circular area of ten inches or more in diameter is impossible without undermining the skin flaps—a step which forms no part of either operation. Although in my method removal of skin is limited to a circle four or five inches in diameter, I have only once seen recurrence in the skin. I would therefore reiterate a strong protest against the unnecessary sacrifice of healthy skin and the inadequate removal of the *deep fascia*, which have characterised operations for breast cancer. The Tansini method is an ingenious way of filling up a gap which need never have been created.

I am, Sir, yours faithfully,
Wimpole-street, W., June 20th, 1908. W. SAMPSON HANDLEY.

THE DANGERS AND TREATMENT OF MYOMA OF THE UTERUS.

To the Editor of THE LANCET.

SIR,—In his interesting Ingleby lectures Mr. Christopher Martin makes some remarks about the treatment of fibroid tumours of the uterus by electrolysis which I should like to refer to. To call Apostoli's treatment electrolysis is, of course, wrong. That is not of much importance, but it does seem to me right that credit should be given to Apostoli for his work. Mr. Martin writes as if he had never tried the treatment, but I have, and I know that Apostoli never recommended thrusting the electrode deeply into the growth, but insisted always on nothing more than a shallow puncture. This I have done hundreds of times without any ill result.

Mr. Martin also forgets that when Apostoli was treating patients with electricity the mortality was, to use his own word, "frightful," and that in 1891 the staff of the Birmingham Hospital for Women announced that they had practically abandoned the operation on account of the terrible death-rate. The change from the extra- to the *intra*-peritoneal method came so quickly and with such wonderful improvement in the results that three years after this announcement I wrote in my book on abdominal surgery: "Operations, when no special difficulties are expected, are now so safe that the question of safety alone would not be sufficient to make one advise electricity rather than an easy operation." I comparatively seldom advise Apostoli's treatment now, though in my experience the results after electricity have been permanent, simply because the mortality after hysterectomy is under 5 instead of being over 30 per cent. as it was 20 years ago. The analysis of Keith's and Englemann's statistics referred to showed such an amount of ignorance of what Apostoli's treatment aimed at that it has never seemed to be worth anything.

I am, Sir, yours faithfully,
June 20th, 1908. SKENE KEITH.

BLOWN MEAT.

To the Editor of THE LANCET.

SIR,—For your benefit I write to inform you in reference to your note on "Blown Meat" and Benjamin Firth Kettle, cattle-dealer, of Hassocks, that this man Kettle was summoned about eight weeks ago at the Haywards Heath petty sessions by the Cuckfield rural district council (which council forms one of the sanitary authorities of the East Sussex Combined Sanitary Authority, of which I am medical officer of health) for slaughtering an animal on unlicensed premises. On that occasion Kettle was defended by a solicitor who pleaded a technical objection because proof of the publication of the order of the Local Government Board made 26 years previously, conferring urban powers on the rural district council of Cuckfield to make by-laws in respect to slaughter-houses, was not produced. The Bench, in spite of the protest made by the clerk to the council, Mr. C. H. Waugh, dismissed the case. Mr. Waugh, clerk and solicitor to the rural district council of Cuckfield, advised the council to appeal. Such appeal was heard before the Lord Chief Justice and others a fortnight ago; it was held that it was not necessary to prove publication of the order made 26 years ago, and that if it was necessary then it was for the defendant to prove that the order had not been published. The case was remitted to the Haywards Heath Bench for a further hearing and on June 15th, 1908, the Bench convicted Kettle, fined him £1 and £5 10*s*. 2*d*. costs, or in default one month.

The difficulties as pointed out in your paper of obtaining suitable punishment for dealers in diseased animals and bad meat are considerable. However, the inclosed cutting from the Haywards Heath local paper shows that at times magistrates will impose suitable penalties. I think you will agree

July, 1859, was promoted staff-surgeon in 1872, and fleet-surgeon in 1881, retiring with the rank of deputy inspector-general of hospitals and fleets ten years later. He was in medical charge of the seamen and Royal Marines of the *Clio* landed at Panama during a revolutionary attack on the city in September, 1860.

THE KING'S BODYGUARD FOR SCOTLAND.

The King has been graciously pleased to signify His Majesty's approval of the following appointment on the staff of officers of the Royal Company of Archers (King's Body Guard for Scotland) made at the annual general meeting of the Royal Company on May 21st last:—To be Surgeon: Dr. William Allan Jamieson, vice Mr. Thomas Annandale, deceased.

Dr. William Robert Smith, V.D., Brigade-Surgeon-Lieutenant-Colonel (Honorary Surgeon-Colonel) 3rd London Volunteer Infantry Brigade, has been appointed Deputy-Lieutenant of the County of London (dated June 18th, 1908).

Correspondence.

"Audi alteram partem."

THE STUDY OF TWINS AND DOUBLES.

To the Editor of THE LANCET.

SIR,—Will you kindly allow me once again to appeal to your readers for additional information on the above subject, which the consideration of my present evidence has rendered advisable. My object is to determine the greater or lesser importance of the constitutional factor in disease and while still relying mainly on data derived from information respecting twins and doubles I wish to draw upon all subsidiary sources so as to obtain as complete an outline of the subject as is possible.

I have now evidence, though I should be glad of more, on the following points:—(*a*) *Similar* particular diseases and definite constitutional conditions in true twins like and unlike in respect to melancholia, bronchopneumonia, chorea, splenic anæmia, diabetes, hernia, influenza, quinsy and tonsillitis, conjunctivitis, bronchitis, convulsions, thrush, typhoid fever, scarlet fever, measles, cyclical vomiting, pulmonary tuberculosis, peritonitis, and caries of similar teeth. From the literature of the subject instances of suicidal insanity, exalted delusions, melancholia, mania, idiocy, imbecility, congenital deformities, conjunctivitis, and most of the commoner specific fevers. (*b*) Cumulative evidence of several similar diseases contracted nearly or quite simultaneously, sometimes in twins not living together. Confirmatory evidence from literature of the subject. (*c*) Cumulative evidence in triplets. (*d*) Reference to insanity in triplets. (*e*) Other characteristics shared in common in twins and triplets. Confirmatory evidence from literature of the subject. (*f*) Twins not of the same sex. Much less similarity but not unlikeness of constitution. (*g*) "Doubles." Two cases of particular diseases. Diabetes; tetanus. (*h*) "Doubles." One case of cumulative evidence. (*i*) Dissimilar diseases in twins, one doubtful case.

For help in collecting these instances together I wish specially to thank Mr. D. Biddle, Mr. C. Campbell, Dr. H. Campbell, Dr. S. Davies, Dr. R. Glass, Dr. C. Goring, Dr. R. Hutchison, Mr. A. D. Lewis, Dr. H. Maudsley, Mr. George Murray, Dr. H. Rayner, Dr. W. J. Rutherfurd, Dr. W. C. Sullivan, Mr. F. W. Twort, Dr. A. R. Urquhart, and others of Great Britain, and Dr. B. M. J. Conlin, Dr. C. Hedger, Dr. H. Lyons Hunt, Dr. J. Ratcliffe, Dr. Milton Sturgis, Dr. J. M. Trigg, and Dr. H. Yoder of America, and Mr. H. Rugg of Australia for useful suggestions and valuable particulars kindly given and all others who replied to my inquiries. I am also much indebted to the various medical journals which kindly afforded me space for my inquiries.

Further data required. 1. SIMILAR DISEASES IN:—(*a*) *Twins and triplets of the same sex.*—Like twins and triplets. Instances of one disease or, if possible, of several diseases. Unlike twins and triplets. Instances of one disease or, if possible, of several diseases. (*b*) *Twins and triplets not of the same sex.*—Like twins and triplets. Instances of one disease or, if possible, of several diseases. Unlike twins and triplets. Instances of one disease or, if possible, of several diseases. (*c*) "*Doubles*" *same sex, preferably adults.*—Instances of one disease or, if possible, of several diseases. (*d*) *Husband and wife.*—*Like*, the likeness consisting in similar *eye colour*, *similar complexion*, *similar height* characteristics, allowance being made for the fact that women are about four to five inches shorter than men. Unlike in above particulars. (*e*) *Parents and children.*—Like. Unlike. (*f*) *Brothers and sisters.*—Like. Unlike. DISSIMILAR DISEASES IN:—(*a*), (*b*), (*c*), (*d*), (*e*), (*f*), as above.

I should be glad, as the evidence is often difficult to interpret rightly, to have as many particulars in each case as possible. I cannot find satisfactory evidence for the statement that true uniovular twins are always of the same sex. If any of your readers could supply me with references to *detailed series of observations* on this point I should be still further obliged.—I am, Sir, yours faithfully,

J. LIONEL TAYLER.

8, Adys Lawn, Willesden-green, London, N.W., June 8th, 1908.

THE SOLECISMS OF OPHTHALMIC TERMINOLOGY.

To the Editor of THE LANCET.

SIR,—I have elsewhere upon several occasions directed attention to the absurdity of the continued use of the antiquated expression "ophthalmia" as applied to the purulent conjunctivitis of infants. Such a Græco-Latin hybridity as "ophthalmia neonatorum" is unscientific, pathologically inaccurate, and a relic of the days of bacteriological ignorance. The defence in favour of its retention is that custom, as it has been said, has "sanctified" its use—an argument somewhat lacking in strenuousness in view of the continued progress of the science of our art. If ophthalmic surgeons neglect to teach their students that the term "ophthalmia" neonatorum is obsolete, the present-day students are likely to inform the ophthalmic surgeons that bacteriologically they had been taught that the disease in question was not "ophthalmia" but purulent conjunctivitis. But this is only one of the many *solecisms* still prevalent and conservatively adhered to in ophthalmic practice. Presumably they are all "sanctified by use." Perhaps the most glaring instance is that of the term "sympathetic ophthalmia." To describe an inflammation as due to sympathy might usefully have supplied a want in the unscientific days of old. But to speak of sympathetic inflammation in these days is equivalent to asking students to believe in a tradition which has ceased to have any foundation in fact. If ophthalmic surgeons still persist in teaching students that sympathetic ophthalmia correctly describes that disease which is really an infective cyclitis then the students should press for an answer to the question "What is the pathology of sympathy?" It is wonderful, too, how the word "lenticular" enjoys such a vogue in ophthalmic literature. Obviously when the ophthalmic surgeon refers to "lenticular" débris he means "lental" débris; it is difficult to understand how the remains of a lens can be described as part of a little lens. Again, the term "crystalline lens" is undeniably high-sounding, magnificent, impressive, but the adjective is nevertheless unnecessary and superfluous. The ancient anatomists spoke of the crystalline humour to distinguish it from the vitreous humour and the aqueous humour. In each of the latter instances the term "humour" has, for brevity, ceased to be used, and yet the adjective "crystalline" is still applied to the lens as if to show that it were peculiar to a lens, and especially to the ocular lens, to be "crystalline." This calls to mind the solecism so frequently observed in obituary notices, wherein, say, Mrs. Smith is described as the widow or relict of the *late* John Smith, thus suggesting the problem of how a woman can be the widow of a *living* husband.

Then there is that fearsome monstrosity, phthisis bulbi, employed to describe an atrophic condition of the globe. Pathologically, perhaps, the term may be correct. But that is not the point. I particularly draw attention to it for the purpose of showing the confusion to which terms "sanctified by use" can lead. Phthisis, which only means wasting, has by custom come especially and exclusively to mean tuberculosis of the lungs. On this showing, therefore, "phthisis bulbi" can only imply tuberculosis of the globe, whereas the atrophic condition of the globe in question has nothing whatever to do with the tubercle bacillus. It is somewhat remarkable that throughout the domain of the nomenclature of disease the only instance in which the term allowed full control one half of the officers could in peace time be away and arrangements for relieving and exchanging duties when officers were sick or needed leave would be done by the principal medical officer. I wish most strongly to point out that provided he can join within 24 or 48 hours one medical officer might be absent from his ship for months at a time; this in the Channel or Home Fleets. There are no duties that cannot be as easily managed by a surgeon as by a fleet surgeon, and, as you probably know, the surgeon is generally fresher at his work.

I quite agree with you that purely naval grievances come second to medical but there are many that are worthy of attention. The power given to a medical officer generally is very small and he usually only advises and cannot command, and has to mildly submit the diagnosis of all his cases to the captain of the ship and frequently answer questions on his methods of treatment. This causes much difficulty, especially in the case of venereal disease. As to cabin accommodation, though difficulty rarely arises, the regulations state that THE medical officer is to have a cabin; perhaps you do not realise the ignominious position the junior is placed in by the official status he occupies. Further, if a medical officer is appointed late he may have to put up with a cabin inferior to that held by many of his juniors, as if a cabin has once been allotted to any officer he cannot be turned out unless it is a marked cabin. Also, in ships on trooping service a medical officer on passage has to take a cabin after all the officers of the ship and may even have to go without. The question of boats is one of the reasons why medical officers cannot visit their own hospitals sufficiently, but from my experience the commanding officer has enough trouble to supply others besides the medical officers. The boat question affects all officers. Owing to messing arrangements, unless willing to be considerably out of pocket, medical officers cannot regularly visit their hospitals during working hours. There is room for improvement in the practice of putting an officer on half pay between his two appointments for no other obvious reason than to make him pay his own travelling expenses, which are thus doubled. Also the delay in promoting them to higher ranks when a vacancy occurs.

As regards being placed in the same position as army medical officers, naval officers certainly do not wish that. If the senior medical officer of a naval hospital had power to give small punishments for offences arising out of the improper performance of medical duties by the sick berth staff, or if he deemed a severer sentence necessary could, after first trying the case, recommend the sentence to the executive officer or have it confirmed by him, it would prevent occurrences such as the following. A second sick berth steward at a depôt was disrated for having passed a catheter on a patient at midnight. He took the responsibility of doing this as the catheter had only been passed a few hours previously, and he had been frequently encouraged to do minor details for the surgeons to avoid calling them. This sentence ruined his career and none of the medical officers were able to do anything for him, although he was considered one of the best and most promising men in the depôt.

What you say as to the course of instruction at Haslar and the want of pathologists and clinical teaching at any hospital is, I think, far too mild. We have no specialists of any sort, and medical officers who can examine a fundus or detect an error of refraction even amongst the highest ranks are rare. Honestly, the course of instruction at Haslar is regarded as a farce throughout the service except in the tropical diseases section. What you say as to an amalgamation with the Army Medical School is, I think, a proposal that all, except those enjoying the special billets at Haslar for our own course, would welcome, and the necessity for payment of officials to teach at our own hospitals would diminish if more opportunities for hospital study were given.

Lastly, I think it only fair that some attention should be paid to the sick berth staff. They have a very brief and indifferent instruction at a naval hospital—their pay bad and promotion very slow. The great concession of warrant rank to this branch has not done much good, as there are so few warrants and promotion is extremely slow and even to first-class steward is by rotation. Then the manner of their employment is bad; there is no distinction between nursing and non-nursing sections. A nurse in charge of a special case in a single bed cabin has to scrub the floor as well as do any surgical dressings. Some hospitals, especially the smaller ones, are so understaffed that when they have a special or infectious case nurses from the wards have to do the work, and there is then double work for the ward staff. It would be a good thing to copy the army by having a nursing and non-nursing section with an examination of higher quality than what we have at present. This examination, although unpopular, would of necessity give rise to better instruction. The sick berth staff are anxious to obtain the same rates of pay and promotion as naval writers.

I am, Sir, yours faithfully,

SURGEON, R.N.

June 22nd, 1908.

THE MANCHESTER PUBLIC ABATTOIR.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

IN the construction of a municipal abattoir Manchester has the honour of having been early in the field and suffers in consequence. The Manchester abattoirs were opened at Christmas of the year 1872. This was before the development of bacteriology, before any definite notion of asepsis existed, in fact, before any really scientific basis could be provided to guide the planning of a building where foodstuffs were to be preserved from the risk of contamination. In these circumstances it is not surprising to find that the abattoir is in no wise up to date. It is divided into small compartments which are let out to different butchers; therefore, it amounts to this, that the butcher has a small private slaughter-house at the public abattoir. But as these private places are only separated from each other by partition walls the inspectors have not far to go in visiting them. Then, on the butcher's side, there is this advantage, that overhead rails enable him to convey easily his meat to the cooling place or the meat market. Further, and in 1894, a cold storage was erected and it is a great advantage to have all this on the same premises. Then again, as it was constructed long ago, Manchester had not grown to its present dimensions and thus to-day the abattoir, the cold storage, and the wholesale meat market are in what has become a central position. This is a great convenience to the trade. On the other hand, the nearer to habitations the greater becomes the necessity of insuring the maintenance of sanitary conditions. Unfortunately, the Manchester slaughter-house is the reverse of a model establishment. There are low buildings and blood flows out from under the doors on large pavement stones which are not cemented together. The subsoil must be contaminated in the passages and courts between the buildings. Inside the slaughter pens there is insufficient light; they are paved with concrete which has worn well. A few have flag-stones with "plenty of grit"—that is, they are sufficiently rough not to be slippery. This is needed not only to prevent the men and beasts from slipping and falling but also so as to be able to work a lever under the carcass when it is necessary to move its position. These small slaughter pens or partitions are not over clean. They do not compare favourably even with the La Villette abattoir in Paris. There is a lack of smartness and brightness and there are many sombre places which help to produce a forbidding effect.

By a strange lack of appreciation of what constitutes the requirements of an abattoir the very department which needs the greatest amount of light and the most careful ventilation is the very worst part of the entire premises. The pigs are killed in a small dark structure where no special means of ventilation are provided. Overhead there is a low roof with many rafters that cannot possibly be cleaned. Here the accumulated dust and dirt are kept warm and damp by the constant supply of steam from the vats in which the carcasses are scalded so as to remove the bristles. It will be remembered that at Birmingham there is over these vats a different sort of roof so as to carry the steam away immediately and to prevent it from going towards the other parts of the slaughter hall where the carcasses are dressed. Nothing of the sort exists at Manchester. There is no such systematic division of labour with different sorts of ventilation and of light according to the nature of that labour. The whole compartment is bad and offers no advantage over a private slaughter-house, beyond the fact, of course, that it is easier to inspect. For this work there are three veterinary surgeons and one inspector of meat. Then there are also one inspector and two assistant inspectors for fish and fruit and they also visit the retail meat shops in different parts with me that this proves at any rate rural sanitary authorities are not so indolent as some good folk will have us believe.

I am, Sir, yours faithfully,
Hugh Stott,
Medical Officer of Health, Combined Sanitary
Authorities of East Sussex,
Lewes, Sussex, June 16th, 1908.

*** The newspaper cutting to which Mr. Stott refers gives a full account of the hearing before the Haywards Heath Bench on Feb. 24th of a charge against a butcher named Botting of Hurstmonceux. He was convicted in three cases for exposing meat in an advanced condition of tuberculosis for sale. The carcass of a pig in his possession was found to be tuberculous in nearly every part. The man had a good record, but the Bench rightly took a serious view of his offences and fined him £50, with 5 guineas costs.—Ed. L.

A QUESTION OF MEDICAL DEFENCE.

To the Editor of The Lancet.

Sir,—We note that in The Lancet of June 13th it is suggested by a correspondent "that an insurance company might be willing to issue a policy covering medical practitioners against the risk of damages being awarded against them for alleged negligence or malpractice." We desire to state that such a policy is now being issued to our clients by one of the leading non-tariff companies. The premium depends on the amount of indemnity required. The question of champerty and maintenance has been fully considered, and we are legally advised that there is no possibility of any action of this character.

It has been said that to give a medical practitioner complete indemnity against damages and legal expenses will tend to carelessness, but we fail to see how this can be true. There will still remain the moral stigma and the inevitable loss of practice which would follow an adverse verdict.

We are, Sir, yours faithfully,
43, Warwick-street, Regent-street, W. **Aked & Aked.**

THE ROYAL NAVY MEDICAL SERVICE.

To the Editor of The Lancet.

Sir,—I have read with great interest your leading article on the Royal Navy Medical Service in your number of May 30th last. As the subject is one which in order to attract that amount of attention that will lead to any hope of reform, needs further discussion it would be very kind of you to spare room in your valuable paper for further correspondence. Firstly, let me thank you on behalf of many with whom I have discussed it for that valuable article, which, although putting the case very mildly, is extremely fair and accurate. As regards the appointment of the new Director-General you are quite right. From what I have heard without exception his appointment has been spoken of as a great thing, and, moreover, was hopefully talked of for some considerable time before there was any chance of a vacancy. This fact shows one of the very great causes of complaint and reasons for thinking that there is need of serious attention to the present state of the service. There is a universal expression of opinion by senior (here let me state that I have always discussed these matters with seniors who usually all agree with me) as well as junior officers that the position of Director-General is no enviable one and the majority sympathise with him; this because definite statements made to medical officers when visiting the Admiralty show that he is merely a figure-head and, in fact, is treated in a very undignified manner as the senior of his department; that changes are made with which he does not agree and that it is not on his opinion or by his direction that the service is managed. Now the present Director-General has the reputation of being a man of firm character who will not be afraid to resist the authorities and who will do his best to carry out such plans as he may think necessary. It is commonly said that the Admiralty loathe to appoint the best man to this appointment as they do not want anyone whom they cannot easily manage. Hence probably the reason that men conspicuous for their professional abilities do not reach that post. Now in his present isolated position the Director-General is very helpless to carry out any radical changes, changes that most of us think ought to be made. We have, it is true, a "Medical Consultative Board" (please do not let those gentlemen think I have any animus against their personal abilities), but they do not form any part of the medical branch at the Admiralty; they examine candidates for entry and promotion, and even in those matters their advice is not taken. Would it not be a good thing if one or all of the members of that board would answer some of the following questions? I strongly appeal to them as representing the highest branch of the medical profession to do so and to interest themselves on behalf of their medical colleagues who in their present position are unable to agitate except anonymously.

1. Do they think that as constituted at present they have the power to assist the general working and efficiency of the service? or are they purely consultative and not allowed to advise? Do they fully realise that the medical officers of the service look to them for help?

2. Are they able in their present position to support the Director-General in his dealings with the Admiralty? and if not do they think that a board under altered conditions and with power to act as a body would do better?

3. Are they fully acquainted with the inner working of our naval hospitals and institutions, the manner of appointments, the lack of practice and unfair distribution of hospital courses and appointments in which medical officers can gain experience? Do they realise that many serve continuously at sea and never have any opportunity of showing their professional abilities, and that there is no method by which the Admiralty can ascertain them, and that social influence far outweighs professional ability?

4. Do they not think that charges such as the following would benefit the Royal Navy as a whole and that they would justify additional expenditure? (*a*) To increase the staff of all the naval hospitals and to make appointments to these institutions shorter so as to make way for more medical officers to pass through them annually. (I believe, Sir, that no one can deny that with the present small number of vacancies at hospitals there are not enough places at these institutions for every medical officer to hold one vacancy once in every eight years, nor are hospital courses awarded in sufficient numbers to do this by one quarter.) (*b*) That the three large naval hospitals should be used as teaching centres for all medical officers indiscriminately. (*c*) That medical officers might, if willing, be allowed to proceed on full-pay leave for 6–12 months to study at civil hospitals, or even hold house appointments at civil hospitals if able to obtain them. (This is at present allowed to be done by medical officers on joining, but without pay; but it is later during our career that we need it so badly.) It is a fact that an army medical officer has lately held for some months such an appointment at a large London hospital as there was not sufficient work for him in the district in which he was serving.

Now these medical officers would thus make themselves more efficient, to the benefit of the service as well as themselves, and it would prepare the way for suitable men to obtain experience so as to act as pathologists, anæsthetists, aurists, oculists, &c., and instructors to the surgeons on entry, and, most important of all, instructors to the sick berth staff. Certainly strict care should be taken that only hard-working officers obtained these privileges and furnished proof of their work and that the privilege was not given in the same way to people wanting a holiday or avoiding half pay, as has been done over the present hospital courses. Most certainly if the medical officers are to prevent themselves falling into that state of professional ignorance and uselessness, as is so marked in the case of many senior officers (the fault lies with the system, not the officers), some arrangement should be made that after two years at sea a medical officer should always have at least three months at a naval or civil hospital.

Now how are these medical officers to be spared? It is a fact that we are nearly 80 short of our numbers but for all that they are easily obtained. If more are recruited it will not increase the number of hospital appointments. You say in your article that the constant presence of medical officers in harbour ships, &c., is necessary. That is where you show your want of experience of the inner workings. You will find that the majority of men admit the fact that the constant presence of two men in any ship in the Navy is quite unnecessary. Much more so in ships with nucleus crews. If they are supposed to be able to be quickly mobilised why cannot the medical officers be borne on the ship's books and mobilise if wanted at 24 hours' notice. In the Channel Fleet there is not work for one medical officer on any ship. Provided that the principal medical officer of the fleet was allowed full control one half of the officers could in peace time be away and arrangements for relieving and exchanging duties when officers were sick or needed leave would be done by the principal medical officer. I wish most strongly to point out that provided he can join within 24 or 48 hours one medical officer might be absent from his ship for months at a time; this in the Channel or Home Fleets. There are no duties that cannot be as easily managed by a surgeon as by a fleet surgeon, and, as you probably know, the surgeon is generally fresher at his work.

I quite agree with you that purely naval grievances come second to medical but there are many that are worthy of attention. The power given to a medical officer generally is very small and he usually only advises and cannot command, and has to mildly submit the diagnosis of all his cases to the captain of the ship and frequently answer questions on his methods of treatment. This causes much difficulty, especially in the case of venereal disease. As to cabin accommodation, though difficulty rarely arises, the regulations state that THE medical officer is to have a cabin; perhaps you do not realise the ignominious position the junior is placed in by the official status he occupies. Further, if a medical officer is appointed late he may have to put up with a cabin inferior to that held by many of his juniors, as if a cabin has once been allotted to any officer he cannot be turned out unless it is a marked cabin. Also, in ships on trooping service a medical officer on passage has to take a cabin after all the officers of the ship and may even have to go without. The question of boats is one of the reasons why medical officers cannot visit their own hospitals sufficiently, but from my experience the commanding officer has enough trouble to supply others besides the medical officers. The boat question affects all officers. Owing to messing arrangements, unless willing to be considerably out of pocket, medical officers cannot regularly visit their hospitals during working hours. There is room for improvement in the practice of putting an officer on half pay between his two appointments for no other obvious reason than to make him pay his own travelling expenses, which are thus doubled. Also the delay in promoting them to higher ranks when a vacancy occurs.

As regards being placed in the same position as army medical officers, naval officers certainly do not wish that. If the senior medical officer of a naval hospital had power to give small punishments for offences arising out of the improper performance of medical duties by the sick berth staff, or if he deemed a severer sentence necessary could, after first trying the case, recommend the sentence to the executive officer or have it confirmed by him, it would prevent occurrences such as the following. A second sick berth steward at a depôt was disrated for having passed a catheter on a patient at midnight. He took the responsibility of doing this as the catheter had only been passed a few hours previously, and he had been frequently encouraged to do minor details for the surgeons to avoid calling them. This sentence ruined his career and none of the medical officers were able to do anything for him, although he was considered one of the best and most promising men in the depôt.

What you say as to the course of instruction at Haslar and the want of pathologists and clinical teaching at any hospital is, I think, far too mild. We have no specialists of any sort, and medical officers who can examine a fundus or detect an error of refraction even amongst the highest ranks are rare. Honestly, the course of instruction at Haslar is regarded as a farce throughout the service except in the tropical diseases section. What you say as to an amalgamation with the Army Medical School is, I think, a proposal that all, except those enjoying the special billets at Haslar for our own course, would welcome, and the necessity for payment of officials to teach at our own hospitals would diminish if more opportunities for hospital study were given.

Lastly, I think it only fair that some attention should be paid to the sick berth staff. They have a very brief and indifferent instruction at a naval hospital—their pay bad and promotion very slow. The great concession of warrant rank to this branch has not done much good, as there are so few warrants and promotion is extremely slow and even to first-class steward is by rotation. Then the manner of their employment is bad; there is no distinction between nursing and non-nursing sections. A nurse in charge of a special case in a single bed cabin has to scrub the floor as well as do any surgical dressings. Some hospitals, especially the smaller ones, are so understaffed that when they have a special or infectious case nurses from the wards have to do the work, and there is then double work for the ward staff. It would be a good thing to copy the army by having a nursing and non-nursing section with an examination of higher quality than what we have at present. This examination, although unpopular, would of necessity give rise to better instruction. The sick berth staff are anxious to obtain the same rates of pay and promotion as naval writers.

I am, Sir, yours faithfully,
SURGEON, R.N.
June 22nd, 1908.

THE MANCHESTER PUBLIC ABATTOIR.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

IN the construction of a municipal abattoir Manchester has the honour of having been early in the field and suffers in consequence. The Manchester abattoirs were opened at Christmas of the year 1872. This was before the development of bacteriology, before any definite notion of asepsis existed, in fact, before any really scientific basis could be provided to guide the planning of a building where foodstuffs were to be preserved from the risk of contamination. In these circumstances it is not surprising to find that the abattoir is in no wise up to date. It is divided into small compartments which are let out to different butchers; therefore, it amounts to this, that the butcher has a small private slaughter-house at the public abattoir. But as these private places are only separated from each other by partition walls the inspectors have not far to go in visiting them. Then, on the butcher's side, there is this advantage, that overhead rails enable him to convey easily his meat to the cooling place or the meat market. Further, and in 1894, a cold storage was erected and it is a great advantage to have all this on the same premises. Then again, as it was constructed long ago, Manchester had not grown to its present dimensions and thus to-day the abattoir, the cold storage, and the wholesale meat market are in what has become a central position. This is a great convenience to the trade. On the other hand, the nearer to habitations the greater becomes the necessity of insuring the maintenance of sanitary conditions. Unfortunately, the Manchester slaughter-house is the reverse of a model establishment. There are low buildings and blood flows out from under the doors on large pavement stones which are not cemented together. The subsoil must be contaminated in the passages and courts between the buildings. Inside the slaughter pens there is insufficient light; they are paved with concrete which has worn well. A few have flag-stones with "plenty of grit"—that is, they are sufficiently rough not to be slippery. This is needed not only to prevent the men and beasts from slipping and falling but also so as to be able to work a lever under the carcass when it is necessary to move its position. These small slaughter pens or partitions are not over clean. They do not compare favourably even with the La Villette abattoir in Paris. There is a lack of smartness and brightness and there are many sombre places which help to produce a forbidding effect.

By a strange lack of appreciation of what constitutes the requirements of an abattoir the very department which needs the greatest amount of light and the most careful ventilation is the very worst part of the entire premises. The pigs are killed in a small dark structure where no special means of ventilation are provided. Overhead there is a low roof with many rafters that cannot possibly be cleaned. Here the accumulated dust and dirt are kept warm and damp by the constant supply of steam from the vats in which the carcasses are scalded so as to remove the bristles. It will be remembered that at Birmingham there is over these vats a different sort of roof so as to carry the steam away immediately and to prevent it from going towards the other parts of the slaughter hall where the carcasses are dressed. Nothing of the sort exists at Manchester. There is no such systematic division of labour with different sorts of ventilation and of light according to the nature of that labour. The whole compartment is bad and offers no advantage over a private slaughter-house, beyond the fact, of course, that it is easier to inspect. For this work there are three veterinary surgeons and one inspector of meat. Then there are also one inspector and two assistant inspectors for fish and fruit and they also visit the retail meat shops in different parts of the city. Such a staff is absolutely insufficient for a large town like Manchester. Fortunately, their work is simplified by the fact that the private slaughter-houses are dying out. Nearly every year an old private slaughter-house disappears and no new ones are sanctioned. It was eight or nine years ago that the last permission to open a private slaughter-house was granted. This, however, was an exceptional case, as it was very far away from the centre of the city. Whenever a pretext arises to close a private slaughter-house the opportunity is not lost. What this means is illustrated by the fact that in 1906 the number of cattle slaughtered at the public abattoir was 35,304 and in the private slaughter-houses 9048. While Manchester has grown in size and population the private slaughter-houses have decreased. Moreover many butchers who have private slaughter-houses do not kill so frequently in them but are content to buy meat at the wholesale meat market. If they are a long way from the meat market then they kill more in their own places. Also during a quiet week, Easter week, for instance, many of these butchers do not kill at all but trust to finding at the meat market attached to the public abattoir all that they are likely to want. From the public health point of view this sort of gradual evolution is most welcome. It proves that the total abolition of private slaughter-houses would be no great hardship to the butcher, and the actual reduction in their number or the frequency with which they are used is so much gained in regard to the sanitation of the districts where they are, or were, situated. The charge made for slaughtering at the public abattoir is very low, namely, 1*s*. 6*d*. for cattle, 4*d*. for calves, 2*d*. for sheep and lambs, and 6*d*. for hogs. What really pays is the rent charged for stalls to expose and to sell in the wholesale meat market.

There is no doubt also that the importation of live cattle and of meat from abroad has largely contributed to make butchers resort to the market instead of themselves killing. If this meat consists of what is called "split meat," that is, of an entire half of a carcass, the inspectors maintain that it is easy to see if the meat is sound. There are notably some splendid quarters of American beef. These animals are carefully reared and scientifically fed. The veterinary surgeon, with whom I discussed the matter, said that if instead of killing these American cattle immediately on landing they could be sent out to graze for a little while they would soon utterly destroy the British cattle breeding trade. Yet in Lancashire there is a marked preference for Danish beef. It does not look so nice because it is chilled and loses colour. But it is not so fat and is said to taste better. It is a curious fact that in London and the south of England people will readily buy and eat fat beef. Not so in Lancashire where the ideal is a bullock two years old that has not been fattened. There is at least this to be said that with lean meat there is less waste, therefore it is cheaper. However this may be, the concentration of the trade in one large market is a great advantage to the public. It greatly simplifies the control. But what is known as "box" meat cannot be controlled at all and therefore should not be admitted. This consists of odd and small pieces of meat coming from a variety of carcasses, packed in wooden boxes and kept in cold storage till the moment of their sale. Where the whole side of an animal is hung up, even though the viscera have been removed, it is comparatively easy to recognise really wholesome meat, but the sodden, damp, and small lumps of meat that are taken out of the boxes are most unsatisfactory. Short of an elaborate analysis of each piece, which would cost more than the meat is worth, it is not possible to tell whether it is absolutely wholesome or not. There is a very strong feeling against this "box" meat as constituting a real danger.

In regard to English meat there are also serious difficulties. No man ought to be allowed to kill a beast on a farm unless he informs the authorities, so that they may send an inspector to examine the animal the moment that it is killed. But so far is this from being the case that there is a regular trade known as the "slink" trade, which consists of purchasing from farmers sick animals, killing them, and selling wherever the control is not very severe and there is a good chance that the unwholesome nature of the meat will not be discovered. This is the advantage of a public meat market such as that of Manchester. Recently one man had 16 sides of beef seized in the course of one week. The private slaughter-house in a rural district where the meat seized came from had not been inspected for three months. Many inspectors in rural districts are absolutely incapable of detecting dangerous meat even if they did inspect. A far larger staff of competent inspectors is needed all over the country. At the wholesale meat market it is comparatively easy to maintain a higher moral tone. There the "slink" butcher gets worried out of the place. Indeed, the inspectors assured me that there was not a "slink" butcher remaining in any part of the city. If a new butcher came he was most carefully watched and his meat inspected so often that he soon found it would not pay to deal in unwholesome meat. Such, in any case, is the opinion entertained by some of the inspecting staff with whom I conversed.

In conclusion, it seems to me that the time is approaching when Manchester must build a new abattoir. This should coincide with the abolition of the few remaining private slaughter-houses. Then the cattle market being at Salford the animals bought for slaughter have to be driven through crowded streets, and this is most inconvenient. The actual site is so near the centre that it might be sold for a very high price and the proceeds would help to build a new abattoir further from the city but near several rail- and water-ways and close to the, if necessary, new cattle market. Undoubtedly the cattle market and abattoir should be side by side and this is generally so contrived. It is time that this question should be taken in hand again and a complete and remunerative scheme devised. There can be no safer investment when private slaughter-houses are abolished. From the sanitary point of view it is essential that public abattoirs should comprise the utilisation of the by-products, as their treatment, if not properly managed, creates a greater nuisance than the mere slaughtering. On the other hand, it is just the by-products that insure the financial success of an abattoir. Therefore for this purpose also Manchester needs a new abattoir, a much more complete, modern, and better devised establishment than that which was built some 36 years ago.

LITERARY INTELLIGENCE.—A reprint has been called for of Dr. Hackworth Stuart's pamphlet on the medical inspector of public elementary school children under the Education (Administrative Provisions) Act, 1907. The pamphlet is based on Dr. Hackworth Stuart's four years' experience as medical officer to the Hanley Education Committee. It is published by Mr. H. K. Lewis under the title of "The Doctor in the Schools."

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on June 18th, when Dr. F. H. Champneys occupied the chair. A letter from the Privy Council was received approving the Board's suggested addition of the words "by examination" to Rule E 26 in the following terms:—

> Provided that a midwife whose name has been admitted to the Roll in virtue of having passed the examination of the Central Midwives Board, or in virtue of a qualification under Section 2 of the Midwives Act, 1902, acquired by passing an examination in midwifery may add the words "by examination" after the words "certified midwife."

A letter was read from the Master of the Coombe Hospital, Dublin, inquiring whether two probationers, working together and helping each other to conduct the delivery, can each obtain credit for a conduction. It was decided that the Master should be informed that the Board will not tolerate the slightest relaxation of its rules relating to attendance on cases. Letters were considered from the town clerk of Rotherham as to the conviction of a midwife under Section 1 (1) of the Notification of Births Act, 1907, and the Board decided that inquiries should be made (1) as to who were present at the birth in respect of which the midwife was convicted of failing to notify, and (2) as to whether the local supervising authority finds a *primâ-facie* case within the meaning of Section 8 (2) of the Midwives Act, 1902. A letter was read from the secretary of the Queen Victoria Jubilee Institute for Nurses as to providing facilities for the written examination in Ireland of candidates for the Central Midwives Board certificate. It was decided that the Queen Victoria Jubilee Institute for Nurses should be informed that the Board regretted that it could not accede to the request. The statement to be submitted to the Privy Council as to the payment of fees of medical practitioners summoned to assist midwives in emergencies was further considered and approved. The chairman reported that he had drawn up a leaflet on cancer of the womb for distribution to midwives and others. This leaflet, the essence of the message of which is that malignant disease of the uterus is fatal unless early diagnosis can be made and followed up by immediate operative treatment, will be supplied to anyone applying and paying the postage.

NOTES UPON HEALTH RESORTS.

SCANDINAVIAN WINTER HEALTH STATIONS.

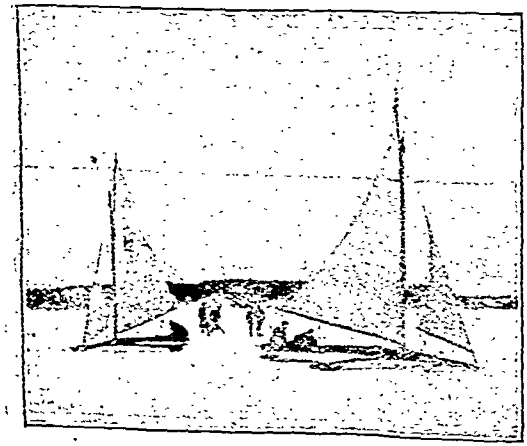
(BY A SPECIAL COMMISSIONER.)

VI.[1]

SWEDISH HEALTH STATIONS.

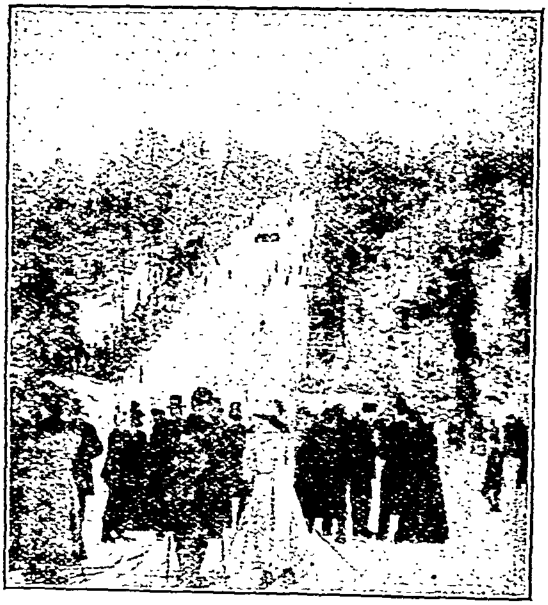
SWEDEN to most Englishmen is probably one of the most unknown and least explored of European countries. Such ignorance and neglect are inexcusable and entail a sacrifice of opportunities and also of privileges which can ill be spared. This land offers almost ideal conditions for the health-seeker and holiday-maker. Nature has been bountiful in providing Sweden with a rich variety of inland and sea-coast districts, far-extending highlands and extensive lakelands, wide-stretching forests and numerous rivers, facilities and endowments dependent on natural resources equalled by few countries and surpassed by none. Added to these benefits are climatic conditions which, at least during a great part of the year, are peculiarly beneficial for bodily development and the maintenance of a high standard of health. Sweden is enabled to provide exceptional diversity in the characteristics of its health resorts. It can justly claim to possess the means for providing all the year round health and recreative centres of the first quality. And yet it must be admitted that up to recently the Swedes themselves have been slow to realise their blessings and hesitant to avail themselves of the natural benefits which, rightly understood and judiciously used, might well make their land one of the most popular and frequented of European countries. Now, however, mainly through the enterprise and energy of the Swedish Tourist Association, directed by its able secretary, Mr. Vilhelm Langlet, to whom I am indebted for much information and no little kindness, the various health stations are being organised, and by coördination and coöperation much is being accomplished in the developing of the best resorts. It is the case, however, that comparatively few prospectuses are printed in English. The slowness to advertise Swedish health resorts to the far wandering English health seeker and sportsman seems inexplicable. I have no doubt if Englishmen can but be afforded proper information in their own language there will be many desirous of availing themselves of the advantages of this east land of Scandinavia. The Swedish Tourist Association (Svenska Turestföreningen) has excellent central offices at 2, Norrlandsgatan, Stockholm, where particulars of practically all the Swedish health and sports centres may be obtained. Mr. Langlet and members of his staff speak English and all actual or intending visitors to Stockholm or any other part of Sweden would do well to communicate with this centre of thoroughly trustworthy and up-to-date information.[2]

FIG. 1.



Swedish winter sports.—Ice yachting at Saltsjöbaden, near Stockholm.

FIG. 2.



Swedish winter sports.—Ski-jumping at Saltsjöbaden, near Stockholm.

ACCESS TO SWEDEN.

To many Sweden seems a land far off. As a matter of fact, it is very accessible and may be easily and comfortably reached. Good sailors may be advised to take the sea route, while sufferers from *mal de mer* and invalids will perhaps prefer one of the so-called overland routes. The vessels of the Wilson line starting from Hull and crossing to Christiania are very comfortable.[3] Thence a night's journey in a well-equipped "sleeper" will bring the traveller either to Stockholm or Gothenburg, the two centres which at the present form the best starting points for English visitors. If preferred, the direct service from Hull to Gothenburg by the Wilson line may be selected. The Thule line, a Swedish service, maintains a regular service between London and Gothenburg and Granton and Gothenburg.[4] Some advise a passage from Hull by the Finland Royal Mail line to Copenhagen and thence by the *ferry boat or steam* to Malmo and so to Gothenburg, Stockholm, or any other part of Sweden. Travellers by the short sea passage or so-called overland route may journey viâ Harwich and the Hook of Holland, Queenboro' and Flushing, Dover and Ostend, Dover and Calais, Folkestone and Boulogne, or even by Hamburg or Berlin and Sassnitz, Trelleborg, and Malmo. Many speak well of the service viâ Harwich or Grimsby to Esbjerg, thence by rail to Copenhagen and so to Sweden. In addition to the indispensable Baedeker,[5] visitors to Sweden should always provide themselves with the current number of the Swedish Bradshaw—"Sveriges Kommunikationer"[6]—and also the admirable guide to Sweden prepared by the Swedish

---

[1] Nos. I., II., III., IV., and V. were published in THE LANCET of April 25th (p. 1233), May 2nd (p. 1306), 16th (p. 1435), and 30th (p. 1578), and June 13th (p. 1717), 1908, respectively.

[2] The Svenska Turestföreningen issues every year a valuable illustrated handbook "Hvilo- och Kurorter i Sverige en öfversikt af Badorter, Luftkurorter, Sanatorier, Turesthotell, Pensionat, Landthem, M.M." Steps should be taken to provide an English edition of this useful manual.

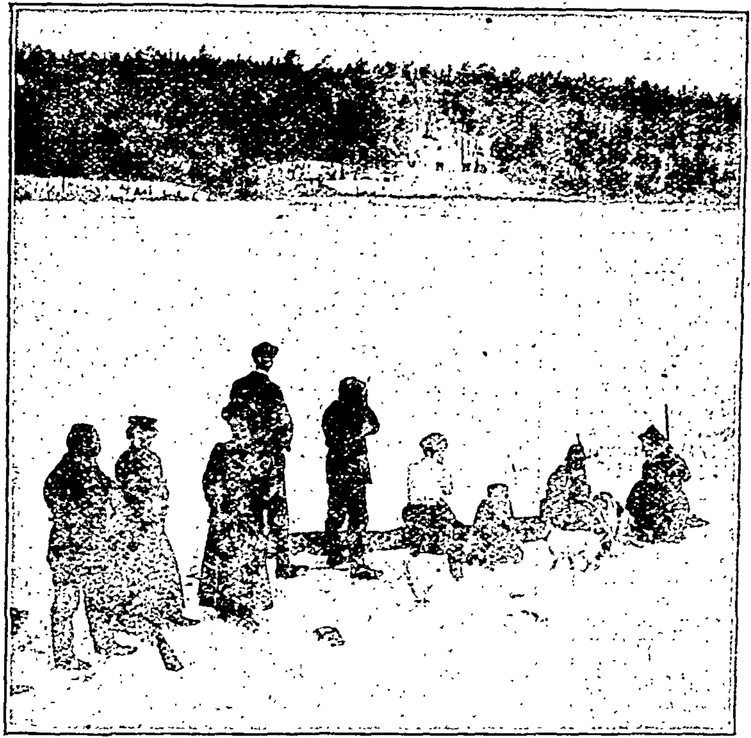
[3] For full particulars of the sailings from Hull consult booklets issued by Messrs Thomas Wilson, Sons, and Co., Hull. If this route is selected berths should be booked well in advance.

[4] For particulars consult the agents: Messrs. Phillips and Graves, 25, St. Dunstan's-hill, London, E.C., or Messrs Chr. Salvesen and Co. of Granton, Leith, and Glasgow; or the head offices of the Thule Steamship Co., Limited, Gothenburg.

[5] Norway, Sweden, and Denmark. London: Dulau and Co., 37, Soho-square.

[6] This can be obtained at all railway stations and most stationers in Sweden, price 15 ore.

FIG. 3.



Swedish winter sports.—The rifle range at Saltsjöbaden, near Stockholm.

Touring Club,[7] and the very informing handbook issued by the Swedish Tourist Traffic Society[8].

Although Swedish enterprise and effort are now opening up many centres for winter sports, and in the near future a great development of new stations may be expected, for the present and until Englishmen find themselves "at home" in Sweden I am of opinion that as a general rule they will be well advised to keep in close touch with either Stockholm or Gothenburg. There are many reasons for believing that this is the wisest course. In the present articles I shall therefore limit consideration to the districts in immediate touch with these two great centres. Experience gathered at either will speedily indicate ways and means to an exploration of less accessible districts and then it is to be expected and hoped that only those suited to undertake such incursions into new parts will attempt the experiment.[9]

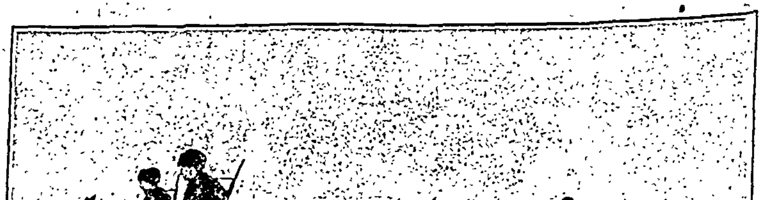
STOCKHOLM AND DISTRICT.

Stockholm has been styled, not inappropriately, "the Venice of the North." It is in truth "the Paris of Scandinavia." A city of many charms, it is particularly delightful in its winter dress. Many parents take their children to Paris and Brussels for educational advantages; they would do well to remember that Stockholm has much to offer. The Royal Central Gymnastic Institute alone draws students from all parts of the world. Under the direction of Colonel V. G. Balck, a worthy successor of the great Ling, and with the assistance of Professor L. M. Törngren and Professor R. M. L. Murray, aided by Dr. A. A. Levin, Dr. S. A. Wallgren, and Lieutenant O. H. R. Hjorth, this State school for physical culture has won a unique position among the educational institutions of the world. Through the kindness of Professor Törngren I had ample opportunity of inspecting the nature and benefits of the work here being carried on, and to all desirous of seriously undertaking a scientific study of physical exercises, whether for the maintenance of health or the treatment of disease, I would commend a winter of work in this far-famed school.

This is not the place to dilate on the many attractions of Stockholm; these can be ascertained by reference to "Baedeker" and the other excellent handbooks to Sweden now available, but to the medical practitioner, and especially to the student of medico-sociological problems, Sweden's capital has many things to reveal. For the health seeker and holiday maker desirous of seeing or taking part in the winter sports, which have made Sweden distinguished throughout the world, Stockholm is one of the best centres. English visitors for a limited period will find all they can desire at the charmingly and centrally situated Grand Hotel. The winter season proper begins early in December and usually lasts up to the end of February. Skating may be enjoyed within the limits of the city. Over many of the frozen inlets of the Baltic near Stockholm ice-yachting is a fashionable and popular sport. (Fig. 1.) Skate-sailing is also an exciting recreation. Great enthusiasm is aroused by the sports meetings at which ski-jumping contests are held. (Fig. 2.) Every fourth year the "Northern Games" are held in Stockholm. The next gathering will be held in February, 1909.

Much credit is due to Colonel Balck for the systematisation and organisation of Swedish sport.[10] The bold

FIG. 4.



Ski-ing practised as a part of military training in Sweden.

---

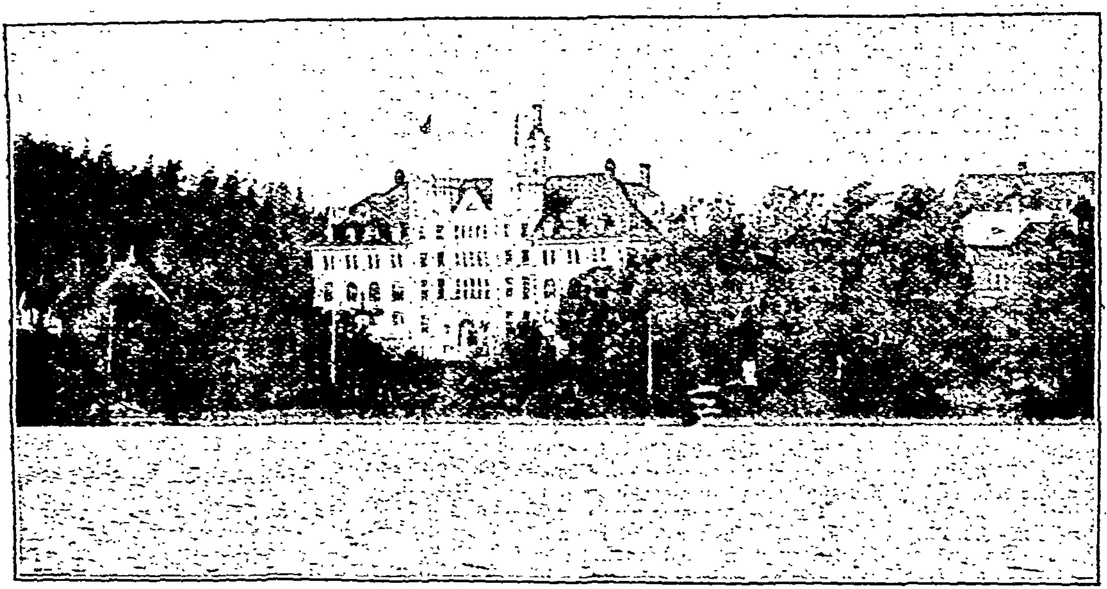
[7] "Sweden." Edited by the Swedish Touring Club. Pp. 238. With 17 maps and seven plans. Second revised edition. London: Thomas Cook and Sons, Ludgate-circus, E.C. 1906. Price 4s.

[8] "Sweden: A Short Handbook on Sweden's History, Industries, Social Systems, Sport, Art, Scenery, &c." Edited by the Swedish Tourist Traffic Society (Turisttrafikförbunder), Stockholm. Pp. 178. Stockholm: Centraltryckeriet. 1906.

[9] Helpful suggestions will be found in "The Winter Sports Annual" for 1907–08. Edited by E. Wroughton. London: Simpkin, Marshall, and Co.

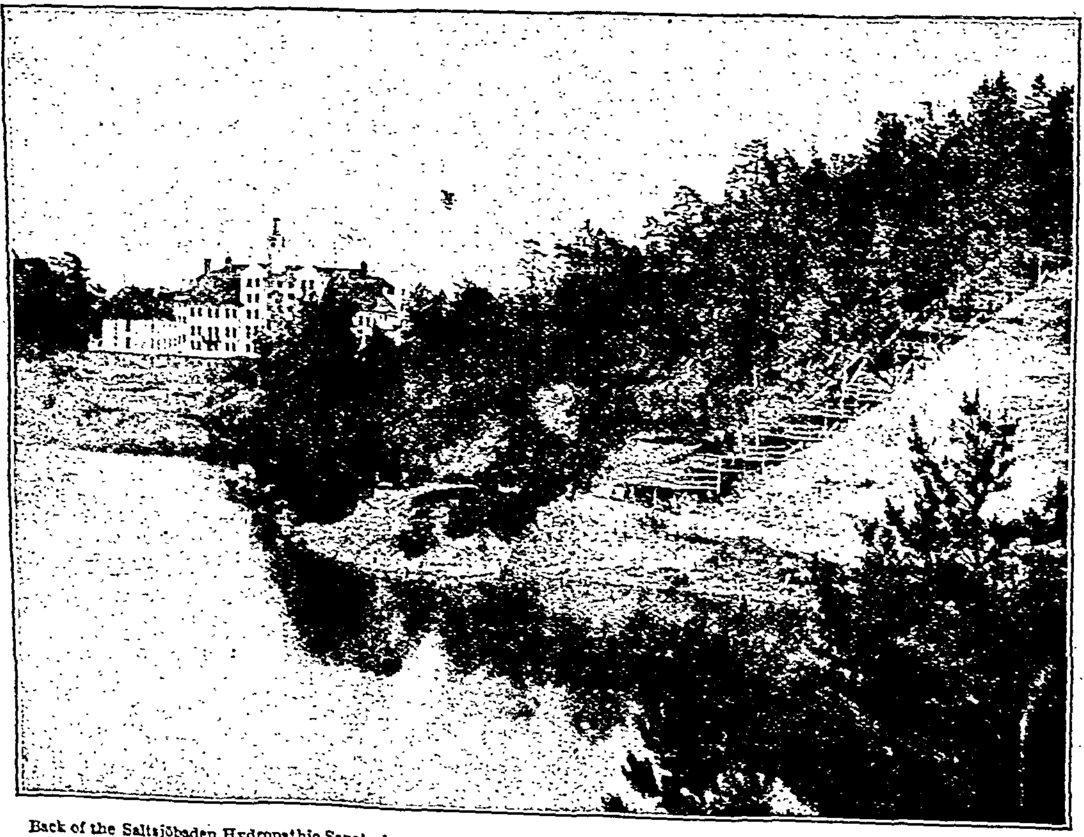
[10] Colonel Balck's chapter on "Sporting Life in Sweden" in "Sweden: A Short Handbook on Sweden's History, Industries, Social Systems, Sport, Art, Scenery, &c.," merits careful study as it affords a trustworthy and comprehensive account of present day sport in Sweden.

FIG. 5.



Saltsjöbaden Hydropathic Sanatorium and annexe on the right, overlooking the Baggensfjärd.

FIG. 6.



Back of the Saltsjöbaden Hydropathic Sanatorium, near Stockholm, showing on the right a portion of the hill slope, with stands for spectators, used in winter for the ski-jumping sports.

that winter sports now have on the youth of Sweden will be abundantly demonstrated by a visit to Stockholm's Idrottspavken. Both men and women are enthusiasts for open-air sports. The advantages of co-education, at least for Scandinavians, is fully evidenced in the conduct of winter sports and winter touring. (Fig. 3.) Ski-ing is now an important element in military education. (Fig. 4.) Societies of various kinds exist for the promotion of various forms of sport, and, as is well known, Swedes now rank with the foremost of European experts in almost all forms of physical culture and sport dependent on scientific precision and artistic skill.

SALTSJÖBADEN.

Of the several fashionable resorts in the neighbourhood of Stockholm, and forming the Swedish Riviera, Saltsjöbaden deserves the foremost place. It is situated on the beautiful Baggensfjärd, at a distance of nine miles from Stockholm. There is a good service of trains and the journey takes about half an hour. Saltsjöbaden is a charming summer resort and can then be reached by steamboat service. The place is still small. There are about 250 villas and the winter population is said to be about 1500. English visitors should make their home either at the Grand Hotel or at the Hydropathic Sanatorium.

The Grand Hotel is an imposing building with 100 visitors' rooms. It is first class in its equipment, and so far as could be ascertained in a necessarily limited inspection well managed. The *pension* terms during the winter are from kr. 45 (about £2 10*s.*) a week. Near to the hotel is an excellent sports pavilion, situated on a hill, and containing a large hall for tennis and gymnastics.

The medical visitor will be specially interested in the Saltsjöbaden Hydropathic Sanatorium. (Fig. 5.) Through the kindness of Dr. Zander I had an opportunity of fully inspecting the place. I am also indebted to Captain A. Astrand for the photographs from which the accompanying illustrations have been prepared. The hydropathic establishment was opened in 1903. It is a stone building of eight storeys of striking appearance. A special feature of the Badanstalt is the gymnasium, which is equipped with something like 40 different forms of apparatus for mechano-therapeutical applications according to the Zander method, as originally introduced by the father of the present medical director. The baths are excellent. The so-called Swedish massage bath is one of the specialities and after personal experience of the same I am prepared to testify to its pleasurable action. For many cases of chronic muscular and arthritic rheumatism it should prove of much service. Several varieties of electrical appliances are also available. In addition to the main building there is a very charming annexe. The lady superintendent spoke excellent English and everything in connexion with the establishment was such as would be likely to be acceptable to British visitors. *Pension* terms are from £2 8*s.* per week but baths and exercises are extra. Saltsjöbaden offers exceptionally fine opportunities for the conduct of winter sports and particularly skating and ice yachting. There is also an excellent ski-jump. (Fig. 6.) On an elevation overlooking the frozen bay is a most artistic and in every way charming sportsman's club-house which I visited and from which a far-extending view of exceptional beauty is obtained.

THE ORGANISATION OF THE MEDICAL PROFESSION IN FRANCE.

(FROM OUR SPECIAL COMMISSIONER.)

REACTION AGAINST THE LAW PROTECTING THE PATIENT'S RIGHT TO CHOOSE HIS MEDICAL ATTENDANT.—PROSECUTION OF MEDICAL MEN FOR ASSISTING IN MALINGERING.—A CAMPAIGN OF CALUMNY.—THE LAW DEFIED AND PATIENTS SACRIFICED FOR THE SAKE OF ECONOMY.

THE medical profession in France is at present involved in a very arduous and unequal struggle against the insurance companies. The struggle is unequal because the companies possess immense wealth and the special sort of ability needed in such a contest. It is said that their annual receipts amount to something like £10,000,000. To carry on their business they have to spend large sums in advertising and they maintain constant and intimate relations with the press. With the exception of the slender funds collected by the medical unions or syndicates the medical profession cannot be said to possess any income that can be employed for the promotion, in a collective sense, of their professional interest. Also, as it is not admissible that professional men should advertise, medical practitioners have little or no experience in the art of calling public attention to their requirements or grievances. It is only quite recently that the medical profession has acquired some experience and some capacity in the exercise of "lobby" influence and in bringing pressure to bear on the legislature. But the medical practitioners of France have still got to learn that there is a very great difference in getting a good law accepted by Parliament and in so altering established customs and traditions that this new law shall be strictly applied. Thus, in 1898 a law was enacted establishing the responsibility of employers in regard to accidents occurring among their workpeople. The medical profession then imagined that there would be a better prospect of payment when they attended an injured workman. It soon became evident, however, that the employers would insure the workers whom they employed and that the insurance companies would see to the medical and surgical treatment according to methods of their own. These methods had for practical result the reduction of the cost of medical attendance to a minimum.

The medical profession thereupon manœuvred so successfully that in 1905 they contrived to bring about an amendment of the law. According to Article 30 of this more recent enactment all workers who meet with an accident are not only at liberty to chose their own medical attendant but any person who in any way attempts to make the injured avail themselves of a medical attendant appointed by the insurance companies or recommended by the employers is to be punished. So precise and so severe was this law that not only were the grievances of the medical practitioners supposed to have been removed completely but there is a reaction, for an attempt is now made to show that grievances have arisen on the other side. The medical men, it is said, are making an abusive use of the law that was intended to protect their interests. Some months ago the lay press published sensational stories about these abuses, the whole thing being obviously engineered so as to obtain the abrogation of the law of 1905. It was no longer the employers who forced those for whom they were liable to consult the medical men whom they had themselves appointed. Now it was the medical men who not only touted but resorted to most dishonest practices so as to secure as patients injured workmen. It was even said that the medical men entered into a sort of partnership with workmen by which the latter either exaggerated their injuries or actually pretended to be hurt when there really was nothing the matter with them. With the aid of incorrect, exaggerated, or absolutely false evidence and certificates from the medical attendant the employers had to pay compensation and medical fees to which neither the patient nor his medical adviser was entitled. Thus the law enabled medical men and the employed to form partnerships for the purpose of swindling the employers or the insurance companies. It might have occurred to those who pointed out this danger to add that the immense majority of the employed are honest people, the swindler and the thief forming an exception, and that the medical profession is especially distinguished for its high sense of honour and the devotion and disinterestedness of its members. At the same time, of course, out of the 18,000 medical practitioners of France it is obvious that there must be among them a few black sheep. One black sheep has recently been caught, and, as described by your Paris correspondent, the workman was condemned to £1 fine with six months' imprisonment, while his medical attendant had to pay £20 and to go to prison for six months, while he is deprived of his right to practise medicine for five years.[1] It will be seen, therefore, that if the law of 1905 provides an opportunity for malingering and swindling the common law also provides efficient means for punishing severely such offences.

Anxious to hear what impression this disgraceful episode produced on the medical profession itself I called on Dr. Julien Noir, the general secretary of the Union of the Medical Syndicates of France. He at once pointed out two important facts. First, the rapidity with which the law had been brought to bear against medical men and the widespread publicity given to the facts by the press at large.

---

[1] THE LANCET, June 13th, 1908, p. 1725.

This observation did not apply only to the culprit whom no one is desirous of defending but more especially to five other medical men whose guilt has in no wise been demonstrated. On the simple complaint of an insurance company an investigating magistrate (*juge d'instruction*) and police commissioners are at once set to work, and within 24 hours the homes of several medical practitioners are invaded, their correspondence is taken possession of, and their records of consultations are seized and carried away. As a rule, magistrates do not act with such precipitation. When medical men complain that a quack or some company is illegally practising medicine, many months, sometimes years, pass before any legal action is taken. Dr. Noir showed me an article which he had written for the *Progrès Médical* describing a company that had largely advertised a so-called electric belt which was to restore health, youth, and strength. For two years complaints were made, but the magistrate concerned hesitated to act on behalf of the medical profession when they called upon him to enforce the law prohibiting the illegal exercise of medicine. At last a lady patient took the law into her own hands and to draw attention to the manner in which she had been treated fired several revolver shots at one of the chief offenders. The revolver shots could not be ignored and the matter was brought before the assizes. Here the lady was acquitted. Then the law on the illegal exercise of medicine was at last put in force and France is now rid of the traders and their belt. It took two years and several revolver shots before the magistracy could be persuaded to move on behalf of the medical profession, but on behalf of the insurance companies not a moment was lost.

Action has been taken against five medical men. An amnesty, however, followed shortly afterwards covering such offences and the prosecution has been dropped. One of the five medical men is most indignant and is clamouring to be prosecuted; for how otherwise is he to establish his innocence? It is a safe thing to prosecute just before an amnesty is likely to be granted, for then it will not be necessary to prove the truth of the accusation. On the other hand, it leaves on the public an evil impression that is not easily dispelled. Dr. Diverneresse, who successfully engineered the Bill on accidents through the Parliamentary Commission, has been carefully collecting a great mass of evidence which constitutes a formidable indictment against the insurance companies. For every accusation levelled against the medical profession he gives and prints full detail with names, dates, and addresses, showing that each of these offences is frequently committed by the insurance companies themselves. Actually a commission appointed by Parliament is sitting to revise the tariff of charges which medical men are entitled to make when attending a patient under the Employers' Liability Act. The principle that the patient shall have full freedom in the choice of his medical attendant is not likely to be given up by Parliament. The legislature is now fully convinced that this is a right principle. Consequently an attempt will be made to reduce the scale of payment known as the Dubief tariff to the fees given for attending paupers. The medical practitioners would then be so badly paid that it would not be worth their while to undertake this service, particularly as they know full well that some of the companies will not fail to avail themselves of any opportunity to involve them in some expensive litigation. Thus, while the injured workman will still enjoy the right to call for the services of the practitioner whom he prefers, very few such practitioners will be willing to attend. Therefore the patient would be compelled to accept the services of the medical man sent to him either by his employer or by the company in which he had been insured by his employer. Naturally medical practitioners are not going to attend well-paid workmen and others for whom provision has been made by insurance in the same manner and for the same remuneration as if they were attending poor, indigent, aged, and infirm persons who are considered by the authorities as worthy of charitable assistance.

Again, it must be borne in mind that when a general practitioner responds to the call of an injured workman he may expose himself to some hostility. The insurance companies and the employers are very influential and the medical practitioner who aids the workman to avail himself of the law of 1905 might become unpopular among those who belong to the class which is able to pay the best medical fees. The medical men who incur such risks are men of independent spirit and therefore likely to be honest and high principled. Nevertheless, if any of them did aid in some malingering swindle they would at once be denounced and expelled by the medical syndicates. At the same time, the sensational stories published by the press must not be taken for granted. For instance, a medical practitioner was accused of prescribing 70 days' rest and 183 francs worth of champagne and apollinaris water to a workman who had received a slight contusion in the abdominal region. This matter was brought to law. The judge and jury declared that the practitioner in question was a most honourable man, that the patient suffered from traumatic peritonitis, and the drug bill, which did amount to 183 francs, was, in the circumstances, quite justifiable. With the aid of the medical union the authors of this accusation are now going to be sued for damages.

The insurance companies themselves are accused of helping to bring about abuses, as it is by creating such scandals that they hope to do away with the law. They are by this law authorised to exercise a control and by refusing to do so they leave the workman and his medical attendant free to practise any form of deception. The French medical unions insist on this principle—that the person whose health is at stake should have the right to choose his medical attendant, and that the person whose purse is at stake should have the right to control the medical expenses incurred. Article 4 of the Law on Accidents grants the injured the right to choose their medical advisers, and grants the employers, who have to pay, the right to send their own medical adviser once a week to control the treatment. Also, on disputed points they may call in an expert or consultant. The medical unions have appealed to the insurance companies to appoint a joint board of control but the latter have refused this and all other methods of arbitration. Indeed, it is to be noted that the employers and the insurance companies are careful not to mention that they possess the right of control, and for not exercising this control employers were blamed on Oct. 1st, 1907, by a magistrate at St. Etienne and on March 28th, 1908, by another magistrate in the Fourth *Arrondissement* of Paris.

In regard to dishonest methods, Dr. Diverneresse recalls the case where an insurance company was ordered to pay an annuity of 227 francs to the parents of a workman who had been killed, and for two years they only gave this sum to one of the parents instead of 454 francs—that is, 227 francs to each parent. Manufacturers in the textile industries of the north are indignant at the extravagant charges made by the medical men who attend injured weavers, but the Parliamentary Commission appointed to investigate the causes of the great strike at Armentières discovered that the weavers were paid for only 133 metres, though the pieces of cloth which they wove measured in reality from 140 to 150 metres. Considering all the dishonest practices prevailing in various industries, whether it be the adulteration of food or the sizing of cotton goods and many other fraudulent devices, it is not for the heads of such manufactures and businesses to accuse the medical profession of swindling. There is a great need of independent medical men to protect the working class from the danger of being treated, not as is best for their health but in the manner which will the soonest remove them from the pension or sick allowance list. The object of the manager of a business is to reduce the expenses and to increase the profits by every possible means. If the medical men employed by these business managers do not enter into this spirit they are not likely to keep their appointments for long. But the true object of a practitioner is to do the best for his patients. It is the patients and not the shareholders of a company that the medical practitioner must serve. If a bachelor is injured and some hazardous operation might cure him completely he would not cost anything more. If the risky operation kills him there is only some £4 to pay for his funeral. But if, on the contrary, careful, patient treatment would probably save the man's life but leave him a cripple, then he remains a financial burden on the insurance company or on his employer for the rest of his days. Here, then, both the ethics of the profession and the laws of humanity are in absolute antagonism with business interests. Nor is this merely a theoretical objection. Dr. Diverneresse has the record of several cases. Thus, a workman had his hand so injured that two fingers had to be amputated, but the third finger with careful treatme might have been saved. In spite of the man's protes surgeon was forced to amputate the third finger also so as to abbreviate the duration of the treatment. There are cases in which it gives less trouble and is less expensive to amputate than to treat the wound.

Medical men have also been accused of touting so as to secure as patients injured workmen. But the employers do not tout; they coerce their employees. On March 23rd, 1908, a medical man in the employ of an insurance company was fined by the Civil Tribunal of the Seine for having, while controlling the treatment of a patient, endeavoured to make him discharge his independent medical adviser. Medical men are accused of having sent canvassers to watch outside the doors of factories and works so as to bring the injured to them. This has never been proved. It is, however, fully proved that within the factory or works, when an accident occurs the injured receive from their employers printed instructions telling them to what medical man they must go, how often they are to attend at his surgery, and in some of the printed formulas of this sort, copies of which are before me, the victim is told that if he does not go to the address given he will be considered as cured. These documents distributed to the injured altogether ignore the law. They say the victim "must go" to such or such a medical man, and in some cases add that he will lose his allowance if he does not comply with these instructions. Such instructions issued under these conditions are acts of illegal intimidation. It is no easy matter for a workman to object to his employer that the law allows him to choose his medical attendant. He may carry his point legally but he would not be very certain of retaining his employment when cured. Sometimes the injured who avail themselves of their right to select their medical attendant are taken away by sheer force. A case is given of an individual who was thus carried away in a motor carriage. Another case is thus described:—

M—— (Seine-Inférieure), December, 1907.

DEAR COLLEAGUE.—A young girl who was injured was brought to my surgery last night at 8 o'clock. I applied temporary splints and was preparing to-day a permanent dressing when I was informed that the insurance agent, without consulting anyone, had sent a carriage and had transported the injured girl to a hospital in the suburbs. The patient, a young girl who is both deaf and dumb, and without knowing the why or the wherefore, did not protest.

The law of 1898, as already explained, grants to the injured in accidents the free choice of their medical adviser. The law of 1905 punishes those who interfere with such free choice, yet the above and many other incidents prove that both these laws are constantly disregarded by employers and by insurance companies. Further, and to cover these delinquencies, as also to prepare the ground for the revocation of these laws, a campaign of scandal and calumny has been opened against the medical profession. Fortunately, although the medical profession does not, like the insurance companies, dispose of a sum amounting to £10,000,000 per annum, it has formed numerous and well-disciplined medical unions, so that it can organise some means of defence.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Dangers of Aniline.

IN the early days of the aniline dye industry its products acquired a bad name, because it was found that socks of certain aniline colours caused a great deal of suffering and annoyance from the irritation of an eczematous eruption on the legs. This occurrence was called to mind by an inquest held at Wigan on June 12th as to the death of a man, 21 years of age, named Ash, who died in the Wigan Infirmary from aniline poisoning. He was employed at the Haigh dye works, and while taking the plug out of a cask of aniline oil the contents splashed over his face and clothes. He washed himself and then continued working for half an hour. The statement was made in the cross-examination of workmen that they did not know that Ash was being gradually poisoned while wearing his wet clothes. Dr. C. G. Edmonston, the house surgeon at the infirmary, said that death was due to poisoning by aniline, which had been absorbed through the skin. Dr. T. M. Legge, the Home Office medical inspector of factories, said that the case was a most unusual one and resulted from the method of emptying the oil from the cask, instead of by means of a tap that would prevent splashing. He also told the jury that there was more danger from the absorption of aniline through the skin than from inhaling the fumes, and that if he had changed his clothes the man would probably have recovered. The verdict was "Accidental death," coupled with the recommendation to consider Dr. Legge's suggestions.

Zeal for Fresh Air.

Dr. T. H. Hayle, a member of the Rochdale education committee, has often complained of the foul air of one of the schools which he visited, and having the courage of his opinions one day deliberately smashed a window. The subcommittee was shocked and horrified, being grieved apparently to lose the vitiated air so carefully preserved by it and went so far as to pass a resolution of regret at what it termed his indiscretion and has further decided to call upon him to mend the window at his own charges. What may be the outcome of the matter lies in the future, but it ought to lead to better ventilation of the schools, and if it does Dr. Hayle may be consoled for the outlay which he may be put to by the reflection that his "indiscretion" will be very beneficial to the children of Rochdale. Years ago the ventilation of some of the Manchester schools was often very bad and to a sensitive nose the smell on entering was sickening. This is not to be wondered at when the condition of many of the homes, the stuffy unwholesome rooms, and the unwashed state of the children and their clothing are considered. All the more is it necessary that the architect should make free ventilation of the schools something that must not only be aimed at but accomplished. Education being compulsory should not entail unnecessary risk in its acquisition either for the teacher or the taught.

June 23rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The New Chair of Therapeutics in the University of Liverpool.

THE Senate and Council of the University of Liverpool have decided not to continue the chair of materia medica and therapeutics, until recently held by Dr. William Carter. The medical faculty considered the whole question of teaching in those subjects. After long deliberation it was decided to separate the subjects of materia medica and therapeutics. The former will in future be combined with pharmacy and will be taught by a pharmaceutical chemist specially appointed by the Council of the University. Mr. Prosper Marsden, F.C.S., the present lecturer on pharmacy, will undertake the teaching in these combined subjects. Students will take out the course in their second summer session. The subject of therapeutics will be taught by a professor who is to be a physician practising clinical medicine. He will be required to deliver a course of lectures in the summer session. Students will attend the course during their fourth year and the subject will form part of the final examination for the degree of Bachelor of Medicine. Arrangements have also been made for students to attend a course of pharmacology in their third summer session. The selection of the new professor is awaited with interest; the applications for the post were required to be forwarded to the registrar by June 20th. The chair will be unendowed, the only remuneration being derived from a share of the students' fees.

The Projected New Out-patient Department at the Liverpool Royal Infirmary.

The gift of £10,000 from the representatives of the late Mr. E. R. Bickersteth to the committee of the Royal Infirmary towards the erection of a new out-patient department, announced in THE LANCET of June 6th, p. 1657, has given an impetus to the movement for an early construction of the work, which had lagged owing to financial and other considerations. This timely gift will enable the committee to give effect to a long-felt and much-needed improvement at the Royal Infirmary. A sum of £40,000 or more will be required to carry out the project, plans of which will be completed as soon as possible. The appeal to be made by the committee for help to complete this branch of the hospital will no doubt be generously responded to.

Liverpool Students and the Medical Corps of the Territorial Force.

The meeting of students recently held to promote the success of the University section of the Army Medical Corps of the new Territorial Force was well attended and most enthusiastic. Among the speakers was the Vice-Chancellor of the University of Liverpool (Principal A. W. W. Dale), who urged students to support the movement. Dr. Alexander Gordon Gullan, the commanding officer of the section, is to be congratulated on the response already obtained. There seems now to be little doubt that the University section will be strong in numbers and distinguished for efficiency and discipline.

The late Lord Derby.

The sudden and lamentable death of the Earl of Derby, Chancellor of the University of Liverpool, removes not only a great figure in society, but a warm friend of Liverpool and her University. The late Chancellor was a great source of strength to the University, and his dignified presence and kindly speeches at the annual commencements for the conferment of degrees will be long remembered. It has become necessary, owing to his sad demise, to postpone the conferment of honorary degrees, and the conferring of ordinary degrees will, on this occasion, be a private function, unattended with the usual *éclat*. The University of Liverpool has suffered much during the last 12 months from death and now it has lost, perhaps, its most influential supporter.

June 23rd.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

University of Durham Bill, 1908.

THE University of Durham Bill was read a second time on Tuesday in last week and referred to a standing committee. The object of the Bill, as has already been pointed out in these columns, is to reconstitute the University of Durham and for that purpose to appoint a statutory commission. The Bill provides for the following persons to act as the Commissioners—namely, the Duke of Northumberland; the Bishop of Exeter; Lord Barnard; Sir Francis Mowatt, sometime Permanent Secretary of the Treasury; Sir William Church, sometime President of the Royal College of Physicians of London; Mr. J. Scott Fox, K.C., Chancellor of the County Palatine of Durham; the Rev. Dr. J. R. Magrath, sometime Vice-Chancellor of the University of Oxford; and Mr. J. Larmor, F.R.S., Lucasian Professor of Mathematics in the University of Cambridge. These names constitute a very able and experienced body of men whose appointment will inspire confidence in those who have interests at stake that these various interests will be sympathetically considered and fairly treated. It is hoped that the final stages of the Bill will be so accelerated that it may receive the Royal Assent and become law with as little delay as possible. Under the Bill the University is to consist of three parts: the Durham division, chiefly theological, and the Newcastle division, comprising the College of Medicine, and Armstrong College. Each of these three parts will have its own representatives on the Senate. And while the principle of the Bill has been cordially received, the question of the amount of representation to be awarded to the various parties interested has evoked a very considerable amount of discussion. The College of Medicine, while approving the principle of the Bill, reserved to itself the right to make representations before the Commissioners on the subject of the number of representatives it should have on the Senate. To what extent each interested body should receive representation is, of course, purely a matter for the Commissioners. But with regard to the College of Medicine it may be here pointed out that there are matters in the constitution of the College and in the provision for teaching pathology and physiology which will certainly handicap its representatives when they appear before the Commissioners to ask for larger proportional representation on the Senate of the reconstituted University.

Degrees in Dental Surgery.

The Council of the College of Medicine has decided to grant degrees in Dental Surgery—viz., a Bachelor's degree (B.D.S.) and a Master's degree (M.D.S.) This is a concession which has been asked on several occasions in the past. The whole of the work required for the final examinations of the Royal Colleges of Surgeons of England and Edinburgh can be done in Newcastle, but up to the present time there has been no local examining body.

Motor-Cars for Medical Men.

An interesting meeting was recently held at Hexham in connexion with the Northern branch of the British Medical Association at which a number of medical men gave the results of their experiences of the use of motor-cars for professional purposes. As regards cost there was, as was only to be expected, great divergence of opinion. The cost of running a car appears to depend very much upon the mechanical propensities of the owner. Ignoring wages and depreciation the cost appears to work out at about 3*d.* to 4*d.* per mile when treated with ordinary care, though this figure may be reduced considerably in the case of a man who has a liking for mechanical instruments. Half the running expenses is spent on tyres. As regards depreciation, it would seem to be best to buy a good car and to sell after two years' use while it is still in good condition and running well. On the whole, the discussion under the head of cost seemed to resolve itself into the statement that a car costs much the same as a carriage and pair of horses, and in this part of the country that is generally taken to represent from £170 to £200 per annum. Where a man's work lies entirely within a city—as, for instance, Newcastle or Gateshead—the view was expressed that a car is something of a luxury; for instance, one speaker stated that while in the country with but few stops he could run 40 miles on a gallon of petrol he found he could only cover 16 miles in town, owing to frequent stoppages at short distances for one purpose or another. On the other hand, where one's work was not strictly limited to a town but involved visits to distant outlying places the general opinion was most emphatic that a motor-car was a *sine quâ non*, especially in a county like Northumberland, where trains were at all times few and in many places did not run on Sundays. But over and above the question of cost a great deal was said in favour of the motor-car in the practice of medicine. Many men seemed to find a great deal of pleasure in driving their cars and found that their journeys were relieved of the great monotony which was such a serious factor in the pre-motor-car days. A motor-car gives a new pleasure to one's rounds, it prevents brooding over serious cases, robs night-work of a great deal of its former terrors, and in the country enables one to get one's work done much more quickly, setting free for other things some three or four hours a day which were formerly spent in travelling about.

June 23rd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Proposed Isolation Hospital.

AT a meeting of the Dolgelley urban council (North Wales) on June 19th Mr. A. E. Hughes moved that a resolution passed on Nov. 15th, 1907, directing the sanitary committee to obtain a piece of land outside the urban area and to erect an isolation hospital thereon should be rescinded. He declared that the majority of the ratepayers were against the hospital and that he was returned at the last election as an opponent to the movement. Medical men were divided on the question and it was contended that when patients mixed in hospitals slight cases became malignant. Another difficulty was that patients could not be removed without magisterial orders. No town in the county had been so free from infectious diseases during the year. It was explained that the council had passed several resolution in favour of the hospital, but efforts made to find a site had been futile. So far it had done its duty and it was felt that if an outbreak occurred after rescinding the resolution it would be in a false position and could give no answer to the demands of the Local Government Board. Other members while advocating the principle of a hospital believed a small cottage would be sufficient without erecting an expensive and isolated hospital. On a division there was equal voting and the motion was declared lost.

The Winsley Sanatorium.

A Local Government Board inquiry was held in Bristol recently relative to the application of the Bristol city council to make a further capital grant of £1000 to the Winsley Sanatorium.

A County Medical Officer of Health for Devon.

At a meeting of the Devon county council held o

June 18th, under the presidency of Earl Fortescue, it was decided to appoint a medical officer of health for the county at a salary of £600 per annum, with an additional £200 a year for travelling expenses and clerical assistance. He will be required to supervise the medical inspection of school children in elementary schools and also to undertake the supervision of midwives. At the same meeting the council decided to expend £150 in the award of scholarships for the training of midwives to candidates recommended by the Devon County Nursing Association.

An Incorrigible Offender.

At Exeter on June 19th Richard Rogers had five summonses returnable against him under the Sale of Food and Drugs Act for selling margarine as butter and for selling margarine not labelled as such. The defendant had been convicted for similar offences at Exmouth, Dartmouth, Torquay, and also at Exeter. The magistrates sentenced him to four months' imprisonment, with hard labour.

June 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Physicians of Edinburgh: Election of President.

AT an extraordinary meeting of the Royal College of Physicians of Edinburgh held on June 23rd, Dr. John Playfair, the Vice-President of the College, was elected President for the remainder of the current year of office, in place of the late Dr. C. E. Underhill.

Professor Annandale's Successor in the Chair of Clinical Surgery in Edinburgh.

The Secretary for Scotland has appointed Mr. Francis M. Caird to the Regius chair of clinical surgery in the University of Edinburgh. Mr. Caird is a graduate of Edinburgh University of 1877 and an F.R.C.S. of Edinburgh of 1880. In his early years he went through the training that so many surgeons have had—namely, of teaching and demonstrating anatomy and of acting as assistant to the professor of surgery. For many years he has been a most successful and popular lecturer on systematic surgery in the extra-mural school. His class was always largely attended and no one in Edinburgh did more for the teaching of surgery than he did. In addition to many papers he is joint author with Mr. C. W. Cathcart of a "Students' Atlas of Bones and Ligaments" and "A Surgical Handbook." He has been for some years a surgeon to the Royal Infirmary and is well-known as one of the pioneers in abdominal surgery in Edinburgh. There was a large field for the Secretary for Scotland to select from, and any of the applicants would have filled the chair with success, but it is felt that no one had done more for surgery than the successful applicant.

Appointment of Sir Henry D. Littlejohn's Successor.

The Edinburgh town council has appointed Dr. Alfred Maxwell Williamson to be medical officer of health of the city of Edinburgh in succession to Sir Henry D. Littlejohn. Dr. Williamson is an M.B. of Edinburgh of 1888 and took the M.D. degree in 1899. He is a B.Sc. in public health of 1890. For a number of years he has held the office of chief sanitary and markets inspector for the city of Edinburgh. He is known to have taken a very active interest in his work and the town council has shown its appreciation by promoting him to the vacant office.

Changes at the Edinburgh Royal Infirmary.

The managers of the Edinburgh Royal Infirmary have decided to form an additional surgical charge. At present three wards are allotted to the care of the professor of clinical surgery and three to the senior ordinary surgeon. The managers have decided to take one ward away from each, thereby providing the necessary number of beds for an additional charge. This gives practically an equal number of beds to each surgeon. This change, together with Mr. Caird's elevation from being an ordinary surgeon to being a professor, makes two vacancies on the full staff which will be filled by the elevation of Mr. David Wallace and Mr. H. Alexis Thomson from assistant to full surgeons and will make two openings for assistant surgeons. The changes will take place before the beginning of the winter session. It may also be mentioned that recently Dr. John Dixon Comrie was appointed an assistant pathologist to the Infirmary in room of Mr. Henry Wade who was appointed an assistant surgeon to Leith Hospital.

A Noteworthy Compensation Case.

An interesting decision has just been recorded at Hawick by Sheriff Laing in a case where the pursuer asked for compensation from a firm of contractors for the death of his son from the bursting of a blood-vessel while working at a winch. It was argued on behalf of the pursuer that it had been proved that while the deceased was winding up bricks a scaffold with a number of men and bricks on it collapsed in his immediate vicinity. The deceased made a special effort to wind up the winch so as to allow him to help at the scaffold, and in this way he strained himself, causing the bursting of a blood-vessel from which he died shortly after. This it was contended was an accident within the meaning of the Workmen's Compensation Act of 1906. It was contended for the defenders that compensation was only due in the case of a man who in ordinary health strained himself in the reasonable performance of his duties and that, as in this case, where a man suffering from disease had his life shortened by the acceleration of the disease by accident no compensation was due under the Act. It had been proved, they said, that the deceased had, unknown to himself, been suffering for a year previously from phthisis. The Sheriff found the pursuer entitled to compensation from defenders in respect that the death of his son was due to personal injury by an accident and arising out of his employment. He assessed the sum at £75, with expenses.

University of Glasgow: Chair of Clinical Medicine.

It is announced that the University Court will proceed to make an appointment to this chair on July 9th or on an early date thereafter. All further information may be had from the secretary to the Court.

Montrose Royal Asylum and Infirmary Board: Annual Meeting.

The annual meeting of the Montrose Royal Asylum and Infirmary Board was held in the town buildings, Montrose, on June 9th. Dr. J. G. Havelock, physician superintendent, presented his annual report which showed that moral causes, such as domestic troubles, business worries, &c., accounted for about 40 of the cases of insanity, adolescence for 12, intemperance for nine, change of life for 12, influenza for eight, and old age for 14. Hereditary influence was the chief predisposing cause. Mention of one case was specially made as it illustrated this point in a striking manner. Four adult members of a family living in a remote part of Shetland—three sisters and one brother—were all sent to the asylum in the course of a fortnight. They were most respectable, industrious people, abstainers, and living in comfortable circumstances. The sudden death of a relative was the exciting cause. One after another they were seized with acute melancholia, and on inquiring into the family history Dr. Havelock found that there was a strong hereditary taint and that several of their relatives were in the asylum or had been in former years. Happily, two of the sisters had been discharged as recovered and the brother was progressing satisfactorily.

June 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Annual Meeting of the Irish Medical Association.

LAST week I sent a note of the proceedings at the annual meeting of the Irish Medical Association which was held in the Royal College of Surgeons on June 10th, under the chairmanship of Mr. J. S. McArdle, the past President. I send you now a fuller abstract of the report which was presented by the honorary secretary, Dr. Thomas Donnelly, at the meeting. It states that during the past year 26 meetings had been held. The deaths of 13 members had been notified, 18 resignations accepted, and 11 new members elected, leaving a roll of members numbering 726 on Dec. 31st, 1907. As the question had been raised as to whether medical officers of workhouses are entitled to professional fees for giving expert evidence and for making post-mortem examinations, it had been considered advisable to obtain the opinion of counsel. The opinion received was to the effect that the Coroners Act, Sec. 36, deprived all medical officers of public hospitals and infirmaries of fees for inquests upon patients to whom it was a part of their duty to give medical aid. Counsel was further of opinion that this deprivation does not extend to an inmate of the workhouse and who had died in it. A deputation from the council waited upon the Local Government Board in reference to fees payable under the Labourers Act (1906). The reply pointed out that the Act would be more extensive in operation than the earlier Acts had been and that consequently a larger sum would be obtained in fees. For this reason the Board could not see its way to increase the fee formerly sanctioned. This Act came into force on July 1st and it includes within its scope a large number of employees who could on various grounds find it necessary to requisition the services of the medical practitioner, who, it must be remembered, cannot be compelled to give his services or to issue certificates gratuitously. The council had taken the precaution of advising medical men through the public press not to give certificates until payment had been made or guaranteed. The duties of certifying surgeons will obviously be increased under the Workmen's Compensation Act (1906) and rules dealing with their duties and powers have recently been formulated by the Home Secretary with the Treasury. The opinion of the law agent was obtained in this connexion and a deputation had waited on the Local Government Board for the purpose of pointing out the hardship of the rule compelling dispensary medical officers to occupy the position of certifying surgeons. The council had considered the Order of the Local Government Board of May 13th, 1902, disqualifying medical men from acting on public boards: members were reminded that this matter had been dealt with in 1899, in which year the Local Government Board had issued (Jan. 17th) a sealed Order debarring any paid officer engaged in the administration of Poor-law relief from acting as a county councillor. The opinion of senior counsel had been obtained, who advised that: "The question of the validity of the Order of the Local Government Board depends upon the extent of their powers. The approval of the Lord Lieutenant does not make a bad Order good. I think, on the whole, that the Order imposes a collateral disability on the medical officers as individuals, and does not define or regulate their duties as medical officers. When it was desired to impose such a disability, it was done by statute. I think, therefore, the Order is *ultra vires*. However, as it purports to be made under the statutory powers of the Commissioners by Sec. 114 of 1 & 2 Vic., Cap. 56, every Order made under the powers of the Act is good until quashed on *certiorari*." This Order of 1899 was cancelled by the Local Government Board in 1902, when the present Order was issued. There is no valid reason why a medical man who does not hold any paid office under a public board should be disqualified from acting on it. An extraordinary general meeting of the association was held immediately after the general meeting of June 5th, 1907, for the purpose of considering and drafting new articles of association. It was then decided to refer the whole question back to the reorganisation committee and to report at a future meeting. A special general meeting was convened for Nov. 28th, but the requisite three-fourths majority was not obtained for a by-law proposed. The audited accounts of last year were submitted and showed that the balance of law costs for the years 1905–06, amounting to £297 17*s*. 2*d*., with cost of taxation £10 18*s*. 5*d*., making a total of £308 15*s*. 7*d*., have now been paid. Two years' subscriptions are owing by 54 members, 104 members owe one year's subscription, and one member owes 10*s*. 6*d*., making an outstanding total of £223 2*s*. 6*d*.

Dublin Throat and Ear Hospital: Question of Amalgamation.

An application was made in the Chancery Division of the Four Courts before the Master of the Rolls on June 15th by the trustees of the Dublin Throat and Ear Hospital to approve a scheme to be settled at chambers under an order of the court which directed that the regulation of the funds and property of the hospital should be dealt with by amalgamation or affiliation of the hospital with some institution of a similar character, with liberty to the trustees to dispose of the house in Hume-street, in which the work of the hospital had been carried on. Counsel said that the trustees had been able to effect an assignment of the house with the sanction of the landlord. The funds dealt with by the scheme were £246 Consols and £25 cash; and it was proposed to transfer the property to the Adelaide Hospital. Sir Augustine Baker (solicitor), speaking from an individual capacity as a member of the board of the Royal Victoria Eye and Ear Hospital, stated that at a meeting at which he was present some years ago it had been agreed that the fund should be transferred to the Royal Victoria Hospital, it being recognised then, as now, that it was the only hospital that really dedicated all its funds to this particular branch of surgery. He replied in the affirmative to the query of the Master of the Rolls as to whether the hospital referred to treated affections of the throat. It was replied that this was the first notice of an application on behalf of the Royal Victoria Hospital, the main business of which was the treatment of the eye. The Master of the Rolls said that he would give Sir Augustine Baker an opportunity of putting forward a claim on behalf of the Royal Victoria Hospital. If that institution gave relief in cases of throat diseases, as well as of those of the eye and ear, it seemed clear that the money ought to go there.

Royal Hospital for Incurables.

The monthly meeting of the Royal Hospital for Incurables, Donnybrook, was held on June 12th. The chair was occupied by Mr. W. J. Fry. The proceedings of the last meeting of the committee, with those of the visiting and finance committees, were read, confirmed, and signed. The MS. book containing "Remarks by Visiting Governors" was shown and the following minute was read to the meeting:—

> I visited the hospital and went through the wards, conversed with many of the patients, nearly all of whom seemed to be grateful and happy. It is unnecessary to say that everything was in perfect order.
> May 30th, 1908. (Signed) R. H. A. McComas.

The number of patients in the house was 208: 85 males and 123 females. A large number of voluntary contributions, of amount varying from £5 downwards, were acknowledged with expressions of grateful thanks. Altogether, the institution, which is doing excellent work in the way of alleviation of hopeless disease, proves to be in a highly satisfactory state.

The Upkeep of the Insane.

The subject of the upkeep of lunatics, which is becoming of increasing importance in Ireland, was discussed at the meeting of the joint committee of the Richmond lunatic asylum on May 21st. At the opening of the debate it was pointed out that: "In view of the responsibility which has been imposed on us of the care of 600 pauper lunatics in the workhouse of this district and the capital expenditure such a duty involves, it would become a very serious matter for the councils charged with the upkeep of this asylum if, as far as the payment of grants for lunatics is concerned, it should be proved the local taxation account has reached the limits of its resources, in which event the district would have to bear not alone the charge of an additional expenditure of capital but the entire cost of maintenance as well of this large accession to our number of patients." By the friendly exertions of Mr. D. J. Cogan, who was then in Parliament, publication was secured last year of a full account of the transactions for the seven years from April, 1889, to March, 1906, and the audited account for 1906–07 was issued last month. A compilation from this return was before the meeting for consideration. An examination of the data led to the conclusion that the resources of the local taxation account are insufficient to meet any additional demands, "and, worse still, that it is inevitable that the grant already paid from it in relief of the maintenance of lunatics must, in the near future, be considerably reduced." It was pointed out that during the last four years the income had become stationary at £291,000, the fluctuations not exceeding £100 or £200 a year; while, on the other hand, the annual expenditure has risen from £251,000 in 1899 to £306,000 in 1906, "notwithstanding the fact that the payments in relief of Poor-law union expenditure have been restricted by Section 6 of the 1902 Act to an amount not exceeding that paid during 1901–02." Further examination led to the conclusion that unless additional revenue be provided the annual expenditure of the local taxation account must, in the immediate future, be reduced to an amount some £30,000 less than the sum which the local bodies at present receive. It was suggested that the assistance of the Irish Members of Parliament, and even that of the Local Government Board, should be sought through Sir Henry Robinson. One speaker thought that they should press for an increase of the capitation grant.

Inspection of Dairies.

The new Order regarding inspection of dairies, cowsheds, and milkshops which came into force on May 1st has had, a course, the immediate effect of very considerably swelling the sum total of the duties of the medical officers of health. In the great majority of the districts the sanitary sub-officers to whom the duty of insuring the carrying out of the provisions of the new Order has been intrusted are to be known as dairy inspectors. Additional officers may also be appointed with the approval of the Local Government Board, which body has issued a circular to the various sanitary authorities suggesting the desirability of appointing veterinary surgeons. But the instructions of the Order on this head are not definite or final. They do not appear to secure for the medical officer of health any official position or controlling status, although the ultimate success of its aim must necessarily depend on his supervision. It is unlikely that veterinary surgeons will be made to replace the present sanitary sub-officers as dairy inspectors, with the merely nominal salaries which the latter have been receiving, even in the largest districts. And it is important to members of the medical profession to ascertain at the earliest possible date whether the health officers are to receive additional salaries under the new conditions. The only suggestion of increase of income with increase of duty seems to be that of Article 22 that every registered dairyman or cowkeeper will be prevented from occupying a new cowshed until he has obtained from the medical officer of health a certificate of the fitness of the building and its compliance with the regulations as to light, ventilation, drainage, water-supply, &c. For the work and labour of the inspection required before the preparation of the certificate and the issuing of the latter a reasonable fee is attached. The Order, as was to be expected, has met with some opposition. At a meeting of the Aghadowey Creamery, with Dr. H. S. Morrison, the President, in the chair, a resolution was passed to the effect that those present, representing the Aghadowey Coöperative Creamery and the 700 farmers who form its shareholders and milk-suppliers, are of opinion that the inclusion of the suppliers in the Dairies and Cowsheds Order is unnecessary:—

> (1) because all our milk is sterilised before it is manufactured; (2) it is not sold as milk, but only as butter and cream; (3) practical experience has shown that although proper sanitation is necessary in byres, and very desirable, nevertheless the standard fixed by the recent Order, if insisted upon, will be ruinous to the farmers of Ireland; (4) we desire to express our opinion that this Order should only apply to dairies that systematically sell milk in towns; (5) that the sub sanitary officer of each district is quite equal to the task of pointing out any defect that requires a remedy in all cases except dairies; (6) we desire to express our thanks to the Coleraine rural council for their resistance to this Order, which, in our opinion, is vexatious, and except in the cases mentioned unnecessary, and we call upon every district council in Ireland to give their assistance in this matter.

At a meeting of the Belfast public health committee held on June 11th the executive sanitary officer reported that at the summons court on June 9th two persons were fined for breaches of the Dairies, Cowsheds, and Milkshops (Ireland) Order, 1908.

The Belfast Board of Guardians.

The Local Government Board has written to the board of guardians of Belfast after the recent biennial elections requesting that body to proceed to the election of a lady superintendent nurse. The whole matter will be considered at the next meeting of the board, of which a medical man, Mr. J. S. Bryars, has been elected the new chairman.

Royal Victoria Hospital, Belfast.

Hospital Saturday has this year yielded, up to the present, a sum of £837 for the Royal Victoria Hospital, which is only 5 per cent. less than last year, which is not to be wondered at considering the extraordinary dulness of the times in Belfast. It is expected, however, that some more money will be available from collections in the smaller towns in the neighbourhood of Belfast.

Ulster Medical Society.

At a meeting of the Ulster Medical Society held on June 18th, Dr. T. S. Kirk, surgeon to the Royal Victoria Hospital, was elected President for the ensuing year.

June 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The French Society for the Study of Cancer.

THE late Professor Poirier shortly before his untimely death proposed to coördinate the study of cancer in France, but his illness prevented him from carrying out his intention. This project, which is of the utmost value in a country where cancer claims 13,000 victims every year, has been now taken up, and for more than a year a large body of scientific men have been working to put it into execution. The result is that the French Association for the Study of Cancer has been organised with honorary and corresponding members and more than 60 active members. Its officers are Professor Bouchard, president; M. Barrier, director of the Alfort School, vice-president; M. Pierre Delbet, general secretary; M. Ledoux-Lebard, secretary of meetings; M. Henri de Rothschild, treasurer; and Professor Petit, of the Alfort School, librarian. The association intends to organise laboratories and to give subsidies and prizes for research work on malignant tumours. As the etiological factors of cancer are of prime importance the association intends to send out a circular inquiry form to all the medical and veterinary practitioners in France which will contain spaces for the supply of statistics, and the replies should give accurate information of the regions where cancer rages with particular severity. At present more than half the victims of the disease only seek medical advice when it is too late to do anything for them; since this often comes from ignorance of apparently insignificant symptoms which mark the onset of cancer, the association will also concern itself with the education of the public. The meetings will be held monthly.

The Sale of Oysters.

The Prefect of Police has just issued an order regulating the sale of oysters under the advice of the Council of Public Health. In future it will be illegal to expose for sale or to sell for food oysters unless their shells have been first cleaned of all animal or vegetable matter or other débris by brushing or some other means. Vendors of oysters may only employ to soak or to sprinkle them water suitable for the public drinking-supply, with salt added in the requisite proportion. It is especially forbidden to use for this purpose salt which has been employed for preserving fish or other commodities. Salesmen who open the oysters themselves before delivering them must only employ instruments for the purpose which are kept constantly clean; they are not allowed to wash oysters after opening them; and they must see that the oysters are not exposed to any dirt. Any breach of these regulations will be a penal offence.

A Case of Fatal Ascending Paralysis following on Antirabic Treatment.

M. Babès and M. Mironesco communicated the notes of this case to the Biological Society on June 6th. The patient was a woman, 40 years of age, who had been bitten by a rabid dog and submitted to treatment six days later. At the end of a fortnight of inoculations of the lesser strength the course was interrupted by the appearance of symptoms of paralysis of the lower limbs but without any symptoms of hydrophobia. The paralysis took an ascending form and rapidly proved fatal. At the necropsy œdema of the meninges and of the brain with softening of the dorsal and lumbar segments of the cord was discovered. Portions of the bulb and cord injected into rabbits did not prove fatal to them. Microscopical examination of the cord showed widely spread lesions in both white and grey matter; irritative lesions were found in the bulb and the brain but no Negri's corpuscles were demonstrated. The case was not one of paralytic rabies and it would seem that this condition has been confused hitherto with cases of rabid intoxication more or less severe.

The French Society of Hygiene and the Fishermen.

The French Society of Hygiene intends to hold a Congress this year dealing with the dwellings of sea fishermen in a district to be determined by the delegates with the idea of improving the hygienic and moral environment of the "toilers of the deep." The work of the Congress will be in two sections. The first will deal with the statistics of births, deaths, and preventable diseases, the details of certain houses occupied by the fishermen and their families, the cost of such dwellings, and their sanitary arrangements with reference to the supply of water for drinking and household needs and the drainage of rain and slop-water. The second section will be concerned with the method of improving the hygienic conditions of such dwellings and of such settlements and villages as stand in need of it and with the construction of new suburbs near over-populous maritime towns. Several prizes, including a gold medal worth 200 francs, will be awarded at the Congress.

A Home of Rest for the Aged.

At last week's sitting of the supreme council of the Public Assistance M. Mesureur, the Director, announced that he had received information of the bequest to the Assistance by a generous benefactress of certain property, including a farm and a garden at Arcueil and a sum of 10,000 francs. By the terms of the will this legacy must be devoted to the establishment of a home of rest for old people of both sexes who must be at least 60 years of age and French citizens and must never have been adjudged guilty of any offence; in choosing them no political or religious distinctions are to be made. The institution is to be known by the name of the Cousin de Méricourt et Besson Home of Rest and is to be served by the sisters of St. Vincent. This condition is absolute and non-compliance with it will render the bequest null and void, as will failure to open the home within five years of the death of the testatrix.

"Pathomimia."

At a meeting of the Academy of Medicine on June 9th Professor Dieulafoy described the extraordinary case of a man, 30 years of age, who two and a half years ago began to suffer from gangrenous lesions on his left arm and forearm. He consulted several medical men and received different opinions—trophic disorders, neuritis, myelitis, and hysteria being suggested in turn. He underwent an operation for the stretching of the nerves of the left arm, but as the sloughs continued this was amputated at the upper third. A few months later gangrenous patches made their appearance on the right arm and quite recently large sloughs have formed on the left foot. Professor Dieulafoy has eliminated the diagnoses of syphilitic or tuberculous ulcerations or a spinal trophic affection, and he denies absolutely the possibility of a hysterical tropho-neurosis. He came to the conclusion that the lesions were self-inflicted both on account of the rapidity with which the sloughs formed and of their resemblance to lesions made by cauterising with Vienna paste. He considered that the sloughs had been caused by caustic potash, and the patient, after being kept under strict observation, was induced at a psychological moment to confirm this diagnosis. Professor Dieulafoy set himself to study his mental condition. He declares that the man produced the sloughs and submitted his arm to amputation in response to an uncontrollable impulse with no intention of fraud or of getting anything by his action. Professor Dieulafoy designates this morbid mental state as "pathomimia."

A Curious Observation upon Birds.

On June 9th M. Jean de la Riboisière communicated to the Academy of Science the results of a series of organometric researches which he has made upon a number of birds. These investigations have convinced him that a very definite organic relationship exists in birds between the quantity of plumage that they possess and the bulk of their liver and kidney substance. In every species he found that individuals with the largest livers had the fewest feathers and *vice versâ*, and he suggests, surely with some boldness, that the plumage of birds is capable of exercising a supplementary hepatic function.

June 22nd.

INDIA.

(FROM OUR OWN CORRESPONDENTS.)

The Principal Medical Officer in India.

Surgeon-General W. L. Gubbins, C.B., M.V.O., Principal Medical Officer His Majesty's Forces in India, sails from Bombay on June 6th to take up his new appointment as Deputy Director-General at the War Office. Surgeon-General F. W. Trevor, C B., V.H.S., at present principal medical officer of the Poona Division, will succeed him at Simla. Surgeon-General Gubbins held the appointment of Assistant Director-General at the War Office in 1897, whence he went to the South African war as principal medical officer of the 6th Division and afterwards as principal medical officer at Pretoria, being mentioned in despatches and specially promoted colonel. As principal medical officer of the London District in 1902 he had supreme charge of the medical arrangements in connexion with His Majesty's Coronation and received the M.V.O. in recognition of his services. From London he passed by special selection to India as principal medical officer, Western (Bombay) Command, and from this to Eastern (Bengal) Command, and finally was specially selected as chief of the military medical service in India. As principal medical officer on Lord Kitchener's staff in India he has held this appointment for two years. During his tenure of office at Simla Surgeon-General Gubbins has initiated and introduced many changes. The better conditions and supervision of Queen Alexandra's Military Nursing Service for India was one of the first matters to receive attention. Improvements were introduced as regards station and family hospitals and questions affecting the health, eyesight, &c., of the young children of soldiers were the subject of special inquiry. Committees having Surgeon-General Gubbins as President were appointed by the Government of India and His Excellency the Commander-in-Chief to examine and to advise on nearly every subject of military medical importance affecting India specially—enteric fever, trooping arrangements for invalids, field hospitals, mobilisation stores, the better treatment of venereal diseases, station and family hospitals, conditions to better troops in barracks, and so on. Ten divisional sanitary officers each possessing a D.P.H. diploma were appointed to the ten divisions of the army in India with an eleventh at army headquarters as sanitary staff officer to the principal medical officer. Besides this, each brigade laboratory had specialists in bacteriology appointed to them for research work in enteric, malarial, and other fevers. This organisation of preventive medicine in the army of India may be regarded as the most valuable and permanent record of the work effected during the tenure of office of Surgeon-General Gubbins and its fruits will be apparent to anyone studying the statistics of disease in the medical reports of the army of India. Another far-reaching change introduced was the creation of independent principal medical officers of divisions with military medical officer for their staff officer, and the wisdom of the step has been very manifest in the recent mobilisation for the frontier, which at one time assumed considerable proportions, as had the Afghans not stopped when they did a general mobilisation must have occurred. In bidding good-bye to India Surgeon-General Gubbins carries the best wishes for his future not only of the army but also of many friends from the other services, and he leaves with the satisfaction of knowing that he has left his work in order and ready for his successor to carry on smoothly.

Pasteur Institute of Kasauli.

In the Pasteur Institute of India at Kasauli during the last six years for which statistics are available 4052 persons have been treated, with a mortality of 35—i.e., 0·8 per cent. If, however, we take the statistics of Europeans and natives of India separately we get the following figures: (*a*) Europeans treated, 1527; failures 2, or 0·13 per cent.; and (*b*) natives of India treated, 2555; failures 33, or 1·2 per cent. The difference between the statistics for Europeans and those for Indians is very marked, the much greater percentage of failures amongst the latter being without doubt due to the facts (*a*) that the majority are bitten on the bare skin; (*b*) that many of them are bitten by jackals and wolves; and (*c*) that Indians delay much longer in coming for treatment than Europeans.

Cholera at Peshawar.

The principal anxiety in connexion with the Mohmand Field Force has been in respect of an outbreak of cholera amongst our units at several points. The disease is not uncommon in the early summer in the Peshawar Valley and it frequently takes an epidemic form. The Royal Munster Fusiliers when in camp near Abazai suffered severely and the Northumberland Fusiliers also had their quota of cases. Among sepoys and followers, too, some deaths occurred. But cholera is now rapidly abating and the Field Force itself is not likely to be affected. The army medical authorities have taken the strictest measures to secure a clean bill of health on the march. The regiments belonging to the brigades mobilised in connexion with the Mohmand Field Force that have been infected with cholera have returned from the camps in which they were segregated. The 5th Fusiliers marched into Peshawar on May 20th and occupied their own barracks, the 3rd Mountain Battery which was located in a portion of the Fusiliers' lines moving out into a camp in the cantonment. The 4th Gurkhas have also gone into camp. It is evident that the measures taken to protect the Munster Fusiliers from further infection have been successful. No further cases have occurred and it is hoped that they are now free and will return shortly to Peshawar. The epidemic in this regiment has been severe. There have been 42 cases with 28 deaths, all amongst the rank-and-file. Cholera in Peshawar city also shows signs of abatement. In all, there have been some 200 cases in the city. A few cases are occurring here and there in the cantonment, but there are at present no signs of the disease assuming alarming proportions. A few cases have occurred amongst the troops towards the Khyber. The Mohmand Field Force has benefited by the unexpected cold wave, due to thunderstorms and hail, which passed over the Punjab and the Western Himalaya region, but the summer has now fully set in very suddenly.

Cholera at the Coal-fields.

Cholera is very bad in the coal district just now. Mr. Haffkine has gone to Jherria to perform cholera inoculations, the labour at the coal mines being seriously affected. Only those obliged to travel across the country over the fields and nullahs from colliery to colliery are able to gauge the force and extent of the epidemic which is raging from Asansol to Jherria. One by one the collieries are shutting down for want of labour, as the miners fly from the scourge. At one place 80 deaths are reported in three days. Many house servants have succumbed. The oldest residents have not known a severer outbreak or one more general than this. Dead bodies are said to be lying in dry nullahs and fields left to be devoured by vultures and dogs. In certain tracts the air is offensive to breathe. No signs of rain are visible. A baking sun, high temperature, and cloudless skies do not tend to better matters.

A Severe Sentence on a Medical Man.

In the sessions court Mr. S. P. Chatterjee was tried on six charges of giving false evidence and false information in a post-mortem report on April 17th. Two Burmans died from injuries received on the skull in the course of an attack on certain villagers in Nyimaung village. Subsequently when the bodies were exhumed both skulls showed unmistakeable fractures. Nevertheless the accused in his post-mortem reports and in his evidence in the magistrates' and sessions courts declared that there were no bones broken. As a result of his evidence four prisoners were convicted only of causing hurt and sentenced to short terms of imprisonment. The defence was that the accused did not look at the skull. A case in all essentials similar to this was in 1892 laid before the Government Advocate, Mr. Fox, now chief judge, and his opinion was that every man was bound to exercise due care and attention. Nevertheless, according to the sessions judge, the contrary was a widely established belief in Burma and a lax course of procedure based on the belief that a medical man could shut his eyes when he liked prevailed in most parts of the province. Many miscarriages of justice resulted from this belief. These facts were taken into consideration and the accused was sentenced to three years' rigorous imprisonment on all charges. Mr. Chatterjee has preferred an appeal to the chief court against this severe sentence which took no account of evidence given on the prisoner's behalf by a civil surgeon.

Europeans and Vaccination.

The board of directors of the East Indian Railway has drawn attention to the refusal of certain European employees of the line to allow their children to be vaccinated and has added that it cannot allow the health of the general community to be endangered by the refusal of such employees to conform to the regulations on this subject. In any further cases of such refusal the medical officers of the company have instructions to communicate with the head of the department concerned and if the refusal is still persisted in the case will be brought to the notice of the agent for orders as to whether the necessary notice terminating the employee's service with the company shall be given to him.

Plague in Burma.

The official plague report for April for the whole of Burma states that there was a further decrease of plague in the month, the figures showing 461 seizures and 430 deaths, as compared with 1081 seizures and 1014 deaths in March, and 1523 seizures and 1431 deaths in February.

The Health Officer of Bombay.

Dr. J. A. Turner, health officer to the Bombay municipality, has gone on a short leave after nearly eight years of uninterrupted work in this city. Since he was appointed to the office the cost of the plague preventive measures has been reduced by two-thirds. After a baffling fight the plague mortality has been very greatly reduced and the last seasonal epidemic was by far the mildest which the city has experienced. The years of Dr. Turner's administration have been years of substantial progress in local sanitation. The health department is more efficiently managed and the sanitary conditions of the city have materially improved. Thanks to the scientific inquiries which Dr. Turner was the means of setting on foot, we have an accurate knowledge of the etiology of plague and are beginning to understand something of the epidemiology of the disease.

May 22nd.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The Council of the above College on June 18th conferred the diploma of Fellow upon 19 candidates who successfully passed the *Final Examination in Surgery, Surgical Anatomy, and Pathology* held on May 22nd, 25th, 26th, 27th, 28th, and 29th. 68 candidates presented themselves for this examination, of whom 22 were approved (including three who have not yet attained the requisite age of 25 years) and 46 were rejected. The following are the names of the gentlemen upon whom the diploma of Fellow was conferred:—

John Johnson Urwin, Captain I.M.S., M.B., C.M. Glasgow, M.R.C.S., L.R.C.P., Glasgow University and St. Bartholomew's Hospital; Archibald Montague Henry Gray, M.D., B.S. Lond., M.R.C.P., M.R.C.S., University College Hospital; Geoffrey Seccombe Hett, M.B. Lond., M.R.C.S., L.R.C.P., University College Hospital; Clifford Arthur Moore, M.B., B.S. Lond., M.R.C.S., L.R.C.P., University College, Bristol, and London Hospital; Harold Rischbieth, M.A., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and London Hospital; Hamilton Irving, M.B., Ch.B. Vict., M.R.C.S., L.R.C.P., Manchester University and London Hospital; James Glenny Gibb, M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Montague Leonard Hine, M.D., B.S. Lond., M.R.C.S., L.R.C.P., Middlesex Hospital; Charles Max Page, M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Thomas's Hospital; Robert Davies-Colley, M.A., B.C. Cantab., M.R.C.S., L.R.C.P., Guy's Hospital; Donald Whatley Roy, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and St. George's Hospital; Samuel Wilfred Daw, M.B., B.S. Lond., M.R.C.S., L.R.C.P., Guy's Hospital; Alexander Kinder, M.B., B.Ch., B.Sc. New Zealand, M.R.C.S., L.R.C.P., Otago University and London Hospital; Harold Arthur Robert Edmond Unwin, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., Cambridge University and St. Thomas's Hospital; Claude Howard Stanley Frankau, M.R.C.S., L.R.C.P., St. George's Hospital; George Ewart Wilson, M.B. Toronto, M.R.C.S., L.R.C.P., Toronto University and London Hospital; George Charles Edward Simpson, B.A., M.B., B.C. Cantab., B.Sc. Lond., M.R.C.S., L.R.C.P., Cambridge University and St. Bartholomew's Hospital; Wilfred Watkinson Holtzmann, B.C., M.B. Cantab., Cambridge University and London Hospital; and Arthur Rendle Short, M.D., B.S., B.Sc. Lond., University College, Bristol.

Licences in *Dental Surgery* were also conferred by the Council upon the following gentlemen who have now complied with the by-laws of the College:—

Alec Linford Saul, Guy's Hospital; John Battersby, M.B., Ch.B. Manchester, Manchester University; and Percy Samuel Harrison and William Alfred James, Guy's Hospital.

UNIVERSITY OF CAMBRIDGE.—Dr. L. Humphry has been appointed Assessor to the Regius Professor of Physic for the ensuing academical year. The following degrees were conferred on June 18th:—

M.D.—T. R. Elliott and J. M. Hamill, Trinity; and J. Lambert, Downing.
M.B., B.C.—R. G. Chase, Trinity; and M. R. Sawhny, Downing.
M.B.—G. W. Goodhart, Trinity; A. S. M. Palmer, Jesus; and N. M. Fergusson, Magdalen.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in June the following candidates passed in the subjects indicated:—

Surgery.—F. M. Cunningham (Section I.), Royal Free Hospital; C. P. R. Harvey (Sections I. and II.), London Hospital; J. M. Murray (Section II.), Royal Free Hospital and Durham; H. C. Simpson (Sections I. and II.), Edinburgh; and W. H. Tomlinson, Manchester.
Medicine.—A. Bernstein (Sections I. and II.), Manchester; G. J. Eady (Section II.), St. Bartholomew's Hospital; C. P. R. Harvey (Section II.), London Hospital; O. C. H. L. Moll (Section II.), Guy's Hospital; A. D. Rees (Sections I. and II.), Charing Cross Hospital; H. C. Simpson (Sections I. and II.), Edinburgh; A. P. Van Ryn (Sections I. and II.), Leyden; and G. F. Wilson (Section I.), London Hospital.
Forensic Medicine.—A. Bernstein, Manchester; J. A. Laughton, Charing Cross Hospital; and H. V. White, Manchester.
Midwifery.—A. Bernstein, Manchester; A. P. Van Ryn, Leyden; and H. V. White, Manchester.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: C. P. R. Harvey, O. C. H. L. Moll, J. M. Murray, H. C. Simpson, and W. H. Tomlinson.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* The title of Professor has been granted to Dr. Max Neuhaus, assistant in the surgical clinic of the Charité. Dr. Wolfgang Heubner has been recognised as *privat-docent* of Pharmacology.—*Buenos Ayres:* Professor A. Fischel, of the German University of Prague, has been appointed to the chair of Normal and Descriptive Anatomy.—*Chicago (North-Western University):* Dr. John B. Murphy, of the Rush Medical College, has been appointed to the chair of Surgery in succession to Dr. Weller van Hook who has resigned.—*Naples:* Dr. Aldo Albaique has been recognised as *privat-docent* of Topographical Anatomy.—*Pavia:* Dr. Saverio Verson has been recognised as *privat-docent* of Histology.—*Tübingen:* Dr. Müller, of the Anatomical Institute, has been granted the title of Extraordinary Professor.—*Utrecht:* Dr. Rudolf Magnus of Heidelberg has been appointed to the chair of Pharmacology.—*Vienna:* Dr. Robert Doerr has been recognised as *privat-docent* of General and Experimental Pathology.

ROYAL COLLEGE OF SURGEONS IN IRELAND: BARKER ANATOMICAL PRIZE.—The Barker anatomical prize of £21 is offered for competition in 1909 under the well-known conditions. The prize is open to any student whose name is on the anatomical class list of any school in the United Kingdom and the preparations entered must be placed in charge of the Curator on or before April 30th, 1909. The prize is offered for a dissection from behind of the lumbo-sacral plexus. The preparations must be sent to the Curator of the Museum, Mr. A. H. White, Royal College of Surgeons in Ireland, each being marked with a fictitious signature and accompanied by a sealed envelope bearing outside the same signature and containing within the full name of the competitor and a declaration to the effect that the work of the preparation has been carried out by himself. The printed form necessary for this declaration can be obtained on application to the Curator. The dissections are to be mounted in vessels fitted with glass covers, but the covers must not be sealed down. Earthenware basins and plaster-of-Paris settings are not compulsory if the specimens can be equally well displayed and preserved by other means. The dissections for which prizes are awarded become the property of the College and no prize is awarded unless sufficient merit be shown, 70 per cent. of the total marks being the minimum. The adjudicators are the Curator of the Royal College of Surgeons in Ireland for the time being, the President of the College, and the professor of anatomy of the University of Dublin.

THE ROYAL METEOROLOGICAL SOCIETY.—The annual dinner of this society was held on June 16th at the Trocadéro Restaurant, Dr. H. R. Mill, the President, being in the chair. Among those present were Sir Benjamin Stone, M.P., Mr. E. B. Barnard, M.P. (chairman of the Metropolitan Water Board), Captain Muirhead Collins (Agent-General for the Commonwealth of Australia), Dr. J. J. H. Teall, F.R.S. (Director of the Geological Survey), Dr. C. Theodore Williams, M.V.O., Colonel R. C. Hellard, C.B. (Director of the Ordnance Survey), and Mr. Andrew Watt (secretary of the Scottish Meteorological Society). After the loyal toasts had been duly observed, Dr. Williams proposed "The Visitors," to which Captain Collins and Dr. J. D. McClure responded. Mr. Barnard then proposed the "Royal Meteorological Society." The President, in responding, referred to the work of the society during the past year and to the steps which had been taken in connexion with the scientific investigation of the upper air, and in creating an interest in the study of meteorology among teachers, with a view to its ultimate inclusion in school work. With the object of promoting a closer union between working meteorologists of the Empire, an Imperial Meteorological Conference was to be held at Ottawa next month, to which he was going as the representative of the society. He also stated that in the furtherance of their wide scheme, they received no help from Government, and no recognition in the way of representation on the visiting bodies of such institutions as the Greenwich and Kew Observatories, which were largely devoted to meteorology. They did not complain but were desirous that the public should not measure their aims and the solid work which they were doing by the standard of official recognition. Mr. Baldwin Latham proposed "Kindred Institutions," to which Dr. Teall, Captain Lyons, and Mr. Watt responded.

INSPECTION OF FOODSTUFFS AT BRITISH PORTS.—The publication is announced of draft regulations made by the Local Government Board under the Public Health (Regulations as to Food) Act, 1907. These regulations relate to the duties of medical officers of health and other officers in regard to the inspection and examination of foodstuffs landed in port sanitary districts. A separate series has also been issued respecting the examination at the ports of certain imported meat foods.

THE DINNER TO MEMBERS OF THE "VOYAGES D'ÉTUDES MÉDICALES."—We are informed by the organisers that it has been decided to hold this dinner on Thursday, July 16th, at the Hotel Cecil, Strand, W.C., and not at the Franco-British Exhibition, as previously announced. As the number of places is limited it is essential that those who wish to be present should send their names to Dr. Leonard P. Mark (49, Oxford-terrace, Edgware-road, W.), or Mr. P. Macleod Yearsley (31, Harley-street, W.), and their subscriptions (not less than *two guineas*) to the treasurer, Dr. J. Dundas Grant, 18, Cavendish-square, W., at the earliest possible date. Those wishing for a dinner ticket for a lady as well should mention the fact, as the number of these tickets will be limited.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. A. K. Biêloussoff, professor of anatomy and physiology in the University of Kharkoff.—Dr. L. E. Blanche, formerly professor of medical natural history in the Medical School of Rouen.—Dr. Zimmermann of Köln, the Nestor of German medical men, aged 98 years.—Dr. Richard Peters, *privat-docent* of children's diseases in the St. Petersburg Military Medical Academy.—Dr. John W. Cuddy, formerly professor of medicine and of dermatology in Baltimore.—Dr. N. P. Tolochinoff, formerly professor of midwifery and gynæcology in the University of Kharkoff.

THE SUSSEX AND HAMPSHIRE MEDICAL BENEVOLENT SOCIETY.—The Sussex Medical Benevolent Society has extended its operations so as to include Hampshire and will be known for the future as "The Sussex and Hampshire Medical Benevolent Society." All registered practitioners in the counties of Sussex and Hampshire are eligible for election as members of the society. The objects of the society are to aid the widows and children of members dying in indigent circumstances; to aid the sisters of deceased members, being single women or widows, who have lived with their brothers as their housekeepers for a period of not less than five years; to aid such members as are wholly or partially incapacitated by age or permanent bodily infirmities, or who are disabled by severe illness or injury from practising for a period of six months; to aid in the education of the children of members thus incapacitated or temporarily disabled; and generally to assist any deserving case of necessity. Dr. L. A. Parry, 83, Church-road, Hove, is the honorary secretary for Sussex, and Dr. A. M. Barford, 30, Grove-road, Southsea, the honorary secretary for Hampshire.

THE MIDLAND COUNTIES ASYLUM.—At the annual meeting of the friends and supporters of the Midland Counties Asylum for Feeble-minded Children the treasurer, Mr. Joseph Taunton, congratulated the subscribers on the fact that during the last five years the accommodation at the asylum had been nearly doubled and the facilities for training the children had been greatly increased and he pointed out that the asylum was quite full and further applications for admission could only be considered as vacancies occurred. There is a demand for additional accommodation and it would be well if the work of the institution could be extended. At present, however, that is not possible because the last year's expenditure exceeded the ordinary income by £26 and there is an overdraft at the bank for £93 in association with the extension fund. Therefore, until more means are obtainable both for upkeep and extension the work of the institution cannot be increased. Both the Marquis of Hertford, who moved the adoption of the report, and Mr. F. E. Muntz, who seconded, expressed their disappointment that the institution had, as yet, received no contributions from the Birmingham Hospital Saturday Fund. The Marquis of Hertford stated that 25 per cent. of the inmates of the asylum belonged to Birmingham, and he expressed the opinion that the managing committee of the asylum was entitled to some help from the city, and Mr. Muntz remarked that as Birmingham was quite ready to send appeals for Birmingham objects to people outside the city the asylum committee was justified in asking that Birmingham should respond to appeals made by an outside institution.

A CONVERSAZIONE of the Royal Society of Arts will be held in the Natural History Museum, South Kensington, on Thursday evening next, July 2nd, at 9 P.M.

MEDICAL MAGISTRATE.—Mr. J. H. Dudgeon, L.R.C.P., L.R.C.S. Edin., has been appointed a justice of the peace for the county of Cumberland.

THE certificates and prizes in connexion with King's College, London, will be presented by the Right Rev. the Bishop of Central Pennsylvania on Wednesday, July 1st, at 3 P.M.

BROMPTON HOSPITAL SANATORIUM, FRIMLEY.—On Saturday next, July 4th, the Brompton Hospital Sanatorium at Frimley will be open for inspection, when the patients can be seen at the graduated work recently described in THE LANCET. Any medical man wishing to visit the sanatorium on that date should communicate with the medical superintendent who will forward a formal invitation.

OPHTHALMOLOGY AND THE UNIVERSITY OF OXFORD.—An announcement in our last issue of the Ophthalmological Congress to be held at Oxford in July contained an outline of the work arranged for the post-graduate course which is to precede the congress. We desire to make it clear that this post-graduate course of instruction in ophthalmology will begin on July 6th and will be brought to a conclusion by the congress of ophthalmic surgeons upon July 16th and 17th.

THE LEAGUE OF MERCY.—At the invitation of the Prince and Princess of Wales a reception was held on June 24th in the garden of Marlborough House. Previously to their Royal Highnesses receiving their guests on the lawn about 140 presidents and lady presidents of the League assembled in the Saloon of Marlborough House, when a report of the work of the League during the past year was read by Mr. J. Harrison, M.V.O., one of the honorary secretaries. In his reply the Prince of Wales said the report for the year was very satisfactory.

DONATIONS AND BEQUESTS.—Mr. Timothy White, of Sall Park, Norfolk, who left estate valued at £202,946 gross, with net personalty £67,324, has bequeathed £500 to the Portsmouth and Gosport Hospital, £500 to the Norwich Hospital, £100 to Guy's Hospital, London, and £100 to the London Hospital. After certain other legacies are paid the residue of his real and personal estate he left upon trust for one of his sons and his heirs in tail male, whom failing to his other sons and their heirs in tail male successively, whom failing to Guy's Hospital and the London Hospital in equal shares.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Tuberculosis Prevention (Ireland) Bill.

AFTER some delay the text of the Tuberculosis Prevention (Ireland) Bill, which has been introduced into the House of Commons by Mr. BIRRELL, the *Chief Secretary to the Lord Lieutenant for Ireland*, has been issued. The Bill is designed "to prevent the spread and provide for the treatment of tuberculosis and for other purposes connected therewith." Two most important provisions are contained in the measure. It provides for the notification of persons suffering from tuberculosis and it permits county councils to establish hospitals and dispensaries for the treatment of persons in their areas who have contracted the disease. The proposals are of so far reaching a character that it will be well to quote *in extenso* some of the salient portions of the Bill.

The first clause relates to notification. It runs thus: "1. If any medical practitioner attending on any person becomes aware that that person is suffering from tuberculosis of any form, or at any stage, and in any circumstances prescribed by an Order of the Local Government Board under this section, the medical practitioner shall forthwith send to the medical officer of health of the district in which the patient is a certificate in the prescribed form and containing the prescribed particulars. 2. The Local Government Board may from time to time by Order prescribe the *forms* and stages of tuberculosis to which, and the circumstances in which, this section shall apply. 3. Any certificate required to be sent to a medical officer of health under this section may be sent either by delivering it to that officer or by leaving it at his office or residence or by sending it by post addressed to him at his office or at his residence. 4. If any medical practitioner required by this section to send a certificate fails to send the certificate forthwith he shall be liable *on summary conviction* to a penalty not exceeding *forty shillings*. 5. The sanitary authority shall pay to every medical practitioner for each certificate duly sent by him in relation to a patient in their district a fee of 1*s.* if the case occurs in an infirmary, public hospital, or workhouse, and a *fee of 2s. 6d. if* the case occurs elsewhere. Where the medical practitioner required by this section to send a certificate is himself the medical officer of health of the district he shall be entitled to the fee to which he would be entitled if he were not such medical officer. 6. A payment made to any *medical practitioner* in pursuance of this section shall not disqualify the practitioner from serving as a member of any county or district council or as a guardian of any union. 7. The Local Government Board may make regulations for carrying into effect the provisions of this section and such regulations shall, among *other matters, prescribe* the form of certificate to be sent under this section and the particulars to be inserted therein, and shall provide for the proper custody of all certificates, and for securing that, so far as is in the opinion of the Board consistent with the public advantage, no publicity shall be given to any of the particulars contained in any such certificate. The sanitary authority shall gratuitously supply *forms of certificate* to any medical practitioner residing or practising in their district who applies for the same. 8. In this Section the expression 'medical officer of health of the district' means:—(*a*) *as respects any district for* which there is a medical officer of health, that officer; and (*b*) elsewhere, the medical officer of health of the dispensary district."

Clause 2 of the Bill provides for the disinfection and cleansing of premises, bedding, clothing, or articles exposed to or likely to retain infection, in like manner as if tuberculosis were an infectious disease to which the Public Health (Ireland) Act, 1878, and the Infectious Diseases (Prevention) Act, 1890, applied.

There are several important subsections in Clause 3 which relates to *the provision of hospitals and dispensaries by county councils.* The first subsection is as follows: "A county council may if they think fit provide hospitals and dis ensaries for the treatment of inhabitants of their county suffering from tuberculosis, and for that purpose may (*a*) themselves establish and maintain such hospitals and dispensaries; or (*b*) enter into an agreement with any person having the management of any hospital or dispensary for the reception, maintenance, and treatment therein of any such inhabitants of their county as aforesaid." In another subsection power is given to *two or more county councils to combine in providing* a common hospital or dispensary for the treatment of tuberculosis. The fifth subsection is in the following terms: "A county council shall, for every hospital or dispensary established by them, appoint (*a*) a medical superintendent having the prescribed qualifications at such salary as may be approved by the Local Government Board; and (*b*) such nurses having the prescribed qualifications and other officers and attendants as are necessary for the requirements *of* the hospital or dispensary at such respective salaries as the county council think *proper*, and may dismiss any person so appointed as they think fit, excepting the medical superintendent, who shall not be dismissed without the concurrence of the Local Government Board."

Clauses 4 to 12 elaborate the administrative machinery by which effect is to be given to the provisions of Clause 3.

Powers are sought by *Clause 13 for sanitary authorities* to defray the expenses of lectures and the distribution *of* literature relating to tuberculosis.

The next clause enables a county council to appoint a bacteriologist, with such qualifications and at such remuneration as may be approved by the Local Government Board, *for* the examination of meat or milk or milk products, and of sputum or pathological specimens and, at their discretion, to dismiss such bacteriologist. Subject to regulations to be made by the county council, the services of the bacteriologist shall, *without charge, be at the disposal of* any sanitary authority within the county for which he is appointed.

Other clauses in the Bill have reference *to* such matters as the taking of samples of milk and milk products and the destruction of cows affected with tuberculosis of the udder.

Experiments on Living Animals.

A return to the Home Secretary shows that *73,374 experiments* on living animals were performed under licences and certificates in 1907. The number is 27,301 more than in 1906. The experiments tabulated as inoculations, hypodermic *injections*, and some few other proceedings performed without anæsthetics, numbered 70,794 last year. The increase of 27,507 under this head is mainly due to the experiments performed in the course of cancer *investigation*. The total number of experiments performed for this purpose at three *institutions* during 1907 was 45,032, of which 44,789 were *classified as inoculations*, hypodermic injections, and other proceedings *performed* without anæsthetics. Professor THANE, the inspector, reports that during the yea a large number of experiments almost wholly simple inoculations and similar proceedings were performed either on behalf of official bodies, with a view to the preservation of the public health, or directly for the diagnosis and treatment of disease. Several county councils and municipal corporations have their own laboratories in which bacteriological investigations are carried on, including the necessary tests on living animals; and many others have arrangements by which similar observations are made on their behalf in the laboratories of universities, colleges, and other institutions. A sewage farm is registered as a place in which experiments on living animals may be performed in order that the character of the effluent may be tested by its effects on the health of fish. The Board of Agriculture has two laboratories which are registered for the performance of experiments having for their object the detection and study of the diseases of animals. Mr. THANE further reports that in other places experiments have been made on behalf of the Home Office, the War Office, the Local Government Board, the Board of Agriculture and Fisheries, the Metropolitan Asylums Board, the Royal Commission on Sewage Disposal, the Royal Commission on Tuberculosis, and the Sleeping Sickness Committee of the Royal Society. 51 licensees return over 8300 experiments which were performed for Government departments, county councils, municipal corporations, or other public health authorities; 2825 experiments were performed by two licensees for the Royal Commission on Tuberculosis; and 12 licensees performed nearly 4500 experiments for the preparation and testing of antitoxic sera and vaccines and for the testing and standardising of drugs.

Sir W. THORNLEY STOKER, the inspector for Ireland, reports that the experiments performed on living animals in that country were 158 in number, four being under licence alone and 154 under certificates. The animals experimented on were mice, guinea-pigs, rabbits, dogs, goats, and a cat. The experiments were physiological, pathological, and in two instances therapeutical. 11 were for the purpose of demonstrations of the phenomena of circulation, respiration, cardiac control, and secretion. The rest were inoculations for diagnosis, the study of tubercle, typhoid fever, cholera, streptococcal infections, effects of x rays, identification of blood stains, the treatment of goitre, and injection of a trypanosome found in the blood of bats to study the possibility of infection. Studies were made of gastric movements, of the functions of the pancreas, and of kidney secretion.

Prevention of Tuberculosis in Scotland.

The Secretary for Scotland will be asked at an early date whether he will consent to introduce for Scotland a measure on the lines of the Tuberculosis Prevention (Ireland) Bill.

Nurses Registration Bill.

On Tuesday Lord AMPTHILL introduced a Nurses Registration Bill into the House of Lords. He said that it was to provide for the registration of trained nurses and to secure a definition of their qualifications.

Indecent Advertisements.

Further evidence in relation to indecent advertisements has been tendered to the Joint Committee of both Houses of Parliament. On Monday the Rev. R. USHER, vicar of Netherbury, appeared as a witness and handed to the committee a selection of periodicals and other literature containing advertisements recommending the prevention of conception. He spoke of the dissemination of this class of advertisement in the rural districts and recommended that the circulation of such printed matter and the sale of the goods in question should be made a punishable offence.

HOUSE OF COMMONS.

THURSDAY, JUNE 18TH.

The Belfast Health Commission.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state the probable cost of the Belfast Health Commission; whether he was aware that the health committee of the Belfast corporation refused to recommend the corporation to take the responsibility for the publication of the report of the Commission; and whether the Local Government Board would take any steps to see that the recommendations of the Commissioners were carried out.—Mr. BIRRELL replied: The Local Government Board is not yet in a position to estimate the cost of the Belfast Health Commission as the expenses of printing remain to be ascertained. The public health committee of Belfast corporation refused to recommend the corporation to take the responsibility of printing additional copies of the report for public circulation, but the report has since been laid upon the table of the House and copies will thus become available. As regards the honourable Member's concluding inquiry I can only refer him to my previous answer—namely, that having regard to the many important recommendations made by the Commission the corporation must be allowed a reasonable time for decision before the Local Government Board can take action.

The Ruchill Fever Hospital, Glasgow.

Mr. WATT asked the Secretary for Scotland with reference to the Local Government Board inquiry into the overcrowding and understaffing of Ruchill Fever Hospital, Glasgow, how the local authority had dealt with the officials found by the Commissioners of the Local Government Board to be responsible, viz., the medical superintendent, the medical officer of health, and the matron.—Mr. SINCLAIR replied: After full and careful consideration the conclusions come to by the local authority were as follows. The medical superintendent was put on six months' probation. The explanation made to the local authority by the medical officer of health was considered satisfactory. The matron, having expressed regret for the conduct to which exception had been taken, was allowed to retain her position.

Milk and Tuberculosis.

Mr. GUINNESS asked the President of the Local Government Board whether, in view of the recent circular of the United States Department of Agriculture showing the danger of infection from butter made from tuberculous milk, he would, in his promised Milk Bill, make provision to prevent the sale of such butter.—Mr. MASTERMAN (who answered) said: My right honourable friend has seen the circular referred to. He will consider the point raised by the honourable Member, but the Bill which he proposes to introduce will endeavour to prevent the supply of milk from tuberculous cows and thus to prevent also the sale of butter made from such milk.

The Inspection of Meat and Milk at Lisburn.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the report of the Local Government Board inspector with regard to the insanitary condition of the dairies, cowsheds, and milkshops in the Lisburn urban district, the objectionable position and unsatisfactory condition of the slaughter-yards, the want of a public abattoir, and the lack of any provision for the inspection of the meat and milk supply of the district; and whether the Local Government Board proposed to take any steps to urge or to compel the local authority to take action in the matter.—Mr. BIRRELL replied (by written answer): The report of the Local Government Board's inspector contains references to the matters mentioned in the question. The Board has urged the council to appoint an expert inspector such as a veterinary surgeon to supervise the meat and milk supplies of the urban district.

Medical Officers of Health in the Highlands.

Mr. WEIR asked the Secretary for Scotland to state how many medical officers of health had been appointed in the Highland crofting counties during the last five years, and how many of them possessed a diploma in sanitary science, public health, or State medicine, as required under Section 54 of the Local Government (Scotland) Act, 1889.—Mr. SINCLAIR furnished the following written reply: In the Highland crofting counties there have been appointed during the last five years medical officers of health for three counties, six districts of counties, and four parishes or portions of districts. All possess the statutory diploma except four, and two of these have been appointed on condition that they obtain it.

The Medical Officer of Health of Hertfordshire.

Mr. G. J. COOPER asked the President of the Local Government Board whether the county council of Hertfordshire, in reappointing its medical officer of health, added to his duties the appointment of inspecting the children in the elementary schools in the county; whether he could state the number of children to be inspected; whether the medical officer was required to reside in the county and to devote the whole of his time to the duties of his office; whether this medical officer's office had been fixed at Guy's Hospital, London; whether any grants and travelling expenses had been made to maintain this office; whether this position was convenient to the parents of the children and people of Hertfordshire; whether any sanction of his department had had to be obtained; and, if so, whether he would state the reasons why he had sanctioned the selection of an office a considerable distance from the county.—Mr. BURNS replied (by written answer): I understand that the county council has appointed its county medical officer to act as chief school medical officer under the Education Acts and that he is required to devote the whole of his time to the duties of these two offices. A sum of £200 per annum appears to be allowed for the provision of a clerk and suitable furnished offices. He is also allowed the necessary travelling expenses and disbursements for stationery and £20 for the provision of a typewriter. Hitherto the office of the medical officer seems to have been at Guy's Hospital, but I do not know whether the arrangement has been continued. No sanction on my part is required to the appointment which has been made or to the selection of an office, and I have no information on the points mentioned in the question other than those with which I have dealt above. I may say, however, that when appointing a chief school medical officer the county council also appointed a number of district medical officers of health and other medical practitioners to act as school medical officers for the sanitary districts in its area.

THE ROYAL COLLEGE OF SURGEONS IN IRELAND AND THE UNIVERSITIES BILL.

Repeated allusion to the position of the Royal College of Surgeons in Ireland was made on Friday, June 19th, in the debate in the Standing Committee of the House of Commons which is charged with the consideration of the Irish Universities Bill. The subject arose on Mr. Butcher's amendment to Clause 2, which deals with the constituent colleges of the new universities and the powers to affiliate other institutions.

Mr. BUTCHER moved as an amendment to include the following subsection in the clause: "On the passing of this Act, before the powers of the Commissioners determine, the Royal College of Surgeons in Ireland, the Royal College of Science in Dublin, Maynooth College, and Magee College may be affiliated to one or other of the two new universities subject to the provisions of the charter and to the statutes and regulations of the university, and any subsequent affiliation shall be made by statute of the university." He explained that his object was to facilitate the early affiliation of these institutions, if it was so desired. With regard to the Royal College of Surgeons in Ireland, he remarked that its position was so well known that he thought nobody would object to its fitness for affiliation with the new university in Dublin if it so desired.

Captain CRAIG took objection to the inclusion of Maynooth College and Magee College in the amendment, but he was strongly in favour of the inclusion in it of the Royal College of Surgeons in Ireland and the Royal College of Science in Dublin. He thought that it was time that they should have a definite statement with regard to the Royal College of Surgeons, as all Ireland was waiting to know how the Bill was going to affect it. The feeling had gone abroad that the Government was intending to crush out the Royal College of Surgeons, and it would only be reassuring to have a statement from the Chief Secretary to the Lord-Lieutenant that that body should be allowed the full privileges of being affiliated and kept up to a high standard.

Mr. BIRRELL (Chief Secretary to the Lord Lieutenant of Ireland) replied that the committee would be wise to leave the question of affiliating the various bodies mentioned in the amendment to the decision of the senates of the new universities. In his opinion the committee was not competent to decide on the affiliation of these bodies. They had not the information before them to enable them to carry out such an operation satisfactorily. They were bound by their former decisions to leave the whole responsibility to the senates, with the exception that the only places which could be affiliated should be seats of the higher learning. The honourable and gallant Member (Captain Craig), while opposed to Maynooth College and Magee College, was greatly attached to the claims of the Royal College of Surgeons in Ireland and also to the Royal College of Science for affiliation. These matters were not for the committee and were not for the Chief Secretary. They should be left to the senates. He would not express any opinion. The opinion that he was fighting against the Royal College of Surgeons in Ireland was entirely unfounded. He knew the value of its work and he had not the faintest animus against the Royal College. The question of affiliation was not one for the Commissioners but for the senates themselves.

An amendment to exclude Maynooth College and Magee College from Mr. Butcher's proposal was rejected by 31 votes to 2.

Mr. BUTCHER's amendment was negatived without a division.

On the question that Clause 2 should stand part of the Bill,

Captain CRAIG in moving its rejection again took occasion to refer amongst other matters to the position of the Royal College of Surgeons in Ireland. The Chief Secretary had said that he would leave the question of affiliation to the senates of the new universities, but he (Captain Craig) distrusted the senates. The Bill included the Cecilia-street School of Medicine in Dublin but it held out no hope for the Royal College of Surgeons in Ireland.

Mr. BIRRELL pointed out that what the Bill concerned was the medical faculty of the new university in Dublin.

Captain CRAIG (continuing) said that for all practical purposes the Cecilia-street School was a part of the Bill of the right honourable gentleman and the Royal College of Surgeons was not. They all knew that perfectly well. That was a serious point, so serious indeed that those who had been interested in the Royal College of Surgeons for the magnificent work which it had done in the past and was doing now would at least try to see that it was not to be superseded by any other medical school.

Mr. LONG, in the course of his speech, also pointed out that the Royal College of Surgeons in Ireland and the Royal College of Science would be injured unless the senate of the new university gave them recognition. He had done his best to acquaint himself with the facts, and if the new university, including the Cecilia-street School, were able to provide by means of public funds a medical education of a valuable character at a much lower rate of fees than the Royal College of Surgeons could do it was as clear as the sun was in the heavens that the Royal College of Surgeons must suffer.

Mr. BIRRELL said that he would like to say a word about the position of the Royal College of Surgeons in Ireland. He was not at all sure that at this moment it would accept affiliation to the new university. At the present moment the thoughts of the Royal College were turned towards obtaining money. His belief was that if it got money from the Treasury it would prefer to remain outside the university. It might desire affiliation if it did not get money enough. The committee could not affiliate bodies against their will.

The clause was carried by 25 votes to five.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BETHUNE, WILLIAM, M.B., C.M. Edin., has been appointed Medical Officer of Health for Bideford (Devon) Rural District.

BETTS, LEONARD BOWRING, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Parkham District by the Bideford (Devon) Board of Guardians.

BUTTERWORTH, J. J., M.D., B.Ch. Vict., D.P.H., has been appointed School Medical Superintendent to the Education Committee of the Lancashire County Council.

CLARK, CHARLES A., L.D.S., has been appointed Honorary Radiographer to the Royal Dental Hospital.

CLARKE, H. H. R., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Stourbridge District of the county of Worcester.

CLIFFORD, HAROLD, M.B. Lond., F.R.C.S. Edin., has been appointed Honorary Assistant Surgeon for Women at the Manchester Northern Hospital for Women and Children.

DAVIS, HALDIN, M.B., B.Ch. Oxon., has been appointed Honorary Anæsthetist to the Western General Dispensary, Marylebone-road, N.W.

MORLEY, ARTHUR S., F.R.C.S. Eng., has been appointed Honorary Anæsthetist to the Western General Dispensary, Marylebone-road, N.W.

STEADMAN, FRANK ST. J., L.R.C.P. Lond., M.R.C.S., L.D.S. Eng., has been appointed Joint House Anæsthetist to the Royal Dental Hospital.

WILLEY, FLORENCE E., M.D., M.S., B.Sc. Lond., has been appointed Assistant Physician for Diseases of Women at the Royal Free Hospital.

WILLIAMSON, A. M., M.B., C.M. Glasg., has been appointed Medical Officer of Health to the Edinburgh Town Council.

WILLIS, W. M., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Nottingham (East) District of the county of Nottingham.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, washing, and lodging.

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

BATH, ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with lodging, board, and laundry.

BEXLEY, KENT, LONDON COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, and washing.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

BIRMINGHAM MATERNITY HOSPITAL.—House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

BRIDGWATER HOSPITAL.—House Surgeon, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

BURNTWOOD, NEAR LICHFIELD, COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, increasing to £200, with board, lodging, attendance, and washing.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Assistant Anæsthetist (Honorary).

CHESTER, CITY OF.—Assistant Medical Officer of Health. Salary £250 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with rooms, board washing, and attendance.

COVENTRY, CORPORATION OF, EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £250 per annum.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and lodging.

EDINBURGH, UNIVERSITY OF.—Lectureship in Diseases of Tropical Climates. Salary £300 per annum.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £72 per annum, with board, apartments, and washing.

HERTFORD GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Surgeon to Out-patients. Also Anæsthetist.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and attendance.

LANARK, COUNTY OF, LIGHTBURN JOINT HOSPITAL FOR INFECTIOUS DISEASES, Shettleston, near Glasgow.—Resident Physician. Salary £140 per annum, with board, &c.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. Salary £100 per annum, with board and lodging.

LEICESTER INFIRMARY.—Second House Surgeon. Salary at rate of £100 per annum, with board, apartments, and washing.

LEICESTERSHIRE AND RUTLAND LUNATIC ASYLUM.—Junior Assistant Medical Officer. Salary £150, rising to £180 per annum, with board, lodging, and washing.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon, non-resident, for six months. Salary at rate of £50 per annum. Also Anæsthetist.

MANCHESTER, MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £100 per annum, with board, lodgings, and washing.

MANCHESTER, UNIVERSITY OF.—Senior Demonstrator in Physiology. Salary £150, rising to £250 per annum.

MEDICAL MISSION HOSPITAL SETTLEMENT OF WOMEN WORKERS, Canning Town.—Senior Resident Medical Officer (female). Salary £100 per annum.

MILE END OLD TOWN INFIRMARY AND WORKHOUSE, Bancroft-road, E.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £80 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Junior Resident Medical Officer. Salary £50 per annum, with board, lodging, &c.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, *Soho-square, London, W.*—Radiographer.

NEW SOUTH WALES, AUSTRALIA, QUEEN VICTORIA HOMES FOR CONSUMPTIVES.—Resident Medical Officers at the King's Table Land Sanatorium and the Thirlmere Sanatorium. Salary £250 per annum, with board and residence.

NORTHAMPTON COUNTY ASYLUM, Berry Wood.—Locum Tenens for 14 weeks. Salary 4 guineas weekly.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ORKNEY, PAPA WESTRAY PARISH COUNCIL.—Lady Medical Officer and Public Vaccinator. Salary, £85 per annum, with fees, house, and garden.

OXFORD, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Junior House Surgeon, unmarried. Salary at rate of £40 per annum, with board, &c.

PORTSMOUTH BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone road, N.W.—Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, residence, and washing.

RANGOON MUNICIPALITY.—Health Officer. Salary Rs.1000, rising to Rs.1500 per mensem.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Obstetric Physician. Salary £50 per annum, with board, lodging, and washing. Also Clinical Assistant in Gynæcological Department. Both females.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London, E C.—Honorary Assistant Surgeon.

ST. MARY'S HOSPITAL, London, W.—Resident Casualty House Surgeon for six months. Salary at rate of £100 per annum, with board and residence. Also Resident Assistant Anæsthetist for six months, renewable. Salary at rate of £100 per annum, with board and residence.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road.—Resident Medical Officer. Salary £105, with residence and attendance.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £60 per annum, with board and apartments.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £32 per annum, with board, residence, and laundry.

TEIGNMOUTH HOSPITAL, S Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

WESLEYAN METHODIST MISSIONARY SOCIETY.—Medical Secretary.

WEST HARTLEPOOL, CAMERON HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, rooms, and washing.

WEST LONDON HOSPITAL Hammersmith-road, W.—Assistant Surgeon. Also Surgical Registrar. Also Assistant Officer in Charge of the X-Ray Department.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Physician. Also Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

YORK, CITY OF, EDUCATION COMMITTEE.—Assistant Medical School Inspector. Salary £200 per annum.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Ledbury, in the county of Hereford; and at Melton Mowbray, in the county of Leicester.

Births, Marriages, and Deaths.

BIRTHS.

FURBER.—On June 22nd, at Beechcroft, Oxted, the wife of Edward P. Furber, L.R.C.P. Lond., M.R.C.S. Eng., of a son.

MARRIAGES.

THURSTON—MITCHELL.—At St. Paul's Cathedral, Calcutta, on June 1st, 1908, E. Owen Thurston, M.B., B.S. Lond., F.R.C.S. Eng., Captain I.M.S., to Robertina Patterson, daughter of J. C. Mitchell, Esq., late E.I. Ry., and Mrs. Mitchell, Catford, London.

DEATHS.

ABRAHAMS.—On the 21st inst., at his residence, 14, Welbeck-street, Cavendish-square, W., Bertram Abrahams, M.B., B.Sc Lond., F.R.C.P., aged 33, only son of Louis B. Abrahams, of The Cabin, Seaforth-road, Westcliff-on-Sea.

ELLERTON.—On June 17th, at Leamington, Frederic Charles Grant Ellerton, M.R.C.S., L.R.C.P. Edin., in his 89th year.

HIRST.—On the 20th inst., at 248, Victoria Park-road, London, N.E., aged 67 years, Albert Hirst, M.D., F.R.C.P. Edin. Formerly of Prestwich, Manchester.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"THE CURE OF CANCER."

OUR attention is called to a letter in a recent issue of the *Hull Mail*, under the heading "The Cure of Cancer," and over the signature "J. P. Sandlands." We have heard before from this gentleman and remember that having the care of souls he seeks to meddle in a peculiarly mischievous manner with the welfare of bodies afflicted with a terrible disease, of which his own lucubrations prove his amazing ignorance. It passes comprehension that a presumably educated person should set his name to stuff of this sort:—

> "What, then, is conclusive about cancer? (1) It is not a primary, but a secondary disease. (2) Persons do not die of cancer, unless it obstructs some function. (3) Persons often die of liver when the cancer has been cured. John Hodgson, for instance, spat his cancer out of his throat, but he died subsequently of liver. Widow Neal, of Burton Latimer, died of liver some five years after having her cancer cured. (4) The cause of the primary disease is unwholesome food. And so we are on safe ground and can proceed to a rational conclusion. Cancer is curable on the dietetic principle only. On this principle I have cured it. I say this 'after the manner of men.' More correctly speaking we have to say 'Nature does the cure, we can only stop the cause.' Puny man thinks he can do a lot, and really he can only do mischief. I have spent just about £1000 in trying to teach people these things."

It is hard to understand the credulity which this letter shows, unless, indeed, it is a symptom of that uncanny disease "liver," which appears to be endemic in its author's neighbourhood.

THE USE AND ABUSE OF DISTRICT NURSES.

To the Editor of THE LANCET.

SIR,—A few years ago much was said and written on the employment of unqualified assistants, resulting in the action of the Medical Council. I think there is a much greater abuse at the present time. I refer to the district nurse who is "called in" and attends midwifery and sometimes acts as assistant to the club doctor. She is worked night and day for the small remuneration of £60 per annum. The fund is collected by district visitors who induce persons, often in good circumstances, to subscribe 2s. or 3s. a year "and so to be in a position to send for the nurse whenever they wish and so save the doctor's bill." Does not this call for the consideration and action of the Medical Council?

I am, Sir, yours faithfully,
SENEX.

June 15th, 1908.

QUACKERY IN THE NORTH OF ENGLAND.

A CORRESPONDENT has forwarded to us the following cutting from a Northumberland paper:—

> "At the annual conference in connection with the Northumberland and Durham Miners' Permanent Relief Fund it was decided that in future certificates of bone-setters, in whom northern workmen have considerable faith, shall, in applications for relief, be equal in value to those of medical men."

Education does not seem to have spread yet among the Northumberland and Durham miners.

KHORASAN CONSULAR HOSPITAL.

THE annual report of the Khorasan Consular Hospital for 1906 just issued by His Majesty's Consul-General, Major P. Molesworth Sykes, shows that it is growing in popular esteem. In July, 1906, a severe epidemic of small-pox broke out in the city and raged for about three months, during which time more than 7000 deaths occurred. The disease was in a large number of cases of the malignant type. A large quantity of calf lymph was obtained and efforts were made to induce people to attend for vaccination; a considerable number were dealt with, but it was impossible to cope adequately with the enormous numbers needing vaccination. The infants and young children of the city were decimated. In 1906 the Government of India sanctioned a proposal to add a touring hospital assistant, a female hospital assistant, and a second compounder to the medical staff. Towards the end of the year under review the increase in the number of the patients attending was so great that it was decided to separate the medical from the surgical out-patients' consulting room. At the date of writing there had been a marked increase in the daily attendance and also in the numbers of in-patients and of those undergoing major operations. Any increase in the amount of operative work undertaken has a prejudicial effect on the attendance of out-patients, the reason being that the hospital staff is so limited, consisting as it does of only two Indian hospital assistants and one compounder in addition to the agency surgeon, that whenever a major operation is to be done the whole staff has to leave the routine out-patient work and to attend the theatre, one to give the anæsthetic and the other two to assist at the operation. The out-patients who still remain to be attended to in many cases decline to be kept waiting and go away. It is possible that some relief may shortly be found in the more frequent use of local and lumbar anæsthesia for major operations. These forms of anæsthesia have already been introduced with encouraging results, and it is hoped that with increasing experience their use may be greatly extended in the near future. It is evident, however, that the limited staff of the hospital is too fully occupied with the heavy routine work to be able to avail itself of excellent opportunities for research afforded by the large area and diverse nationalities which it serves. It will be remembered that Khorasan occupies the whole of north-east and eastern Persia.

INDECENT ADVERTISEMENTS.

An Indian correspondent forwards us two pages torn from a newspaper called the *Echo of India*, which constitute the most offensive congeries of indecent advertisements that we remember to have seen. One page is chiefly devoted to the two "specifics" "Vim" and "Impodyne," the claims of which are sufficiently indicated by their names, whilst "Genuine French Soluble Pessaries" occupy a conspicuous paragraph. The usual testimonials are printed which are sufficiently objectionable, but hardly more so than are those on the other side of the print which puff the wares of J. W. Wilson and Co., British Manufacturing and Dispensing Chemists, Madras. These nostrums are labeled Syphildyne and Gonorrdyne, as the reader is informed in large type. "Gonorrdyne Injection" and "'Gon' No. 2 Capsules for Gleet" are recommended no less prominently, whilst a place is found for a popular symptomatology of syphilis thinly disguised as "S." It is a pity that the recent Act of the Indian Government to repress seditious newspapers cannot be made to include prints which thrive on such dirty money as is brought in by lying and indecent advertisements. As for J. W. Wilson and Co. of Madras, we can only say if they are justly entitled to the description of "dispensing chemists" their methods are likely to bring an honourable calling into serious discredit in India. We are informed that this paper was circulated *gratis* as a specimen copy; it is to be hoped that no woman's eyes were insulted by it.

THE PECKHAM NURSING ASSOCIATION.

Mr. H. C. Gooch, M.P., has warmly commended the work of this association on the occasion of a recent drawing-room sale of work in aid of its funds. It was, he said, a relief as well as a pleasure to take part in proceedings in which political bias was unknown. He was sure that those of all shades of opinion would gladly join in doing their utmost to extend the usefulness of the association, which during the past eight years had paid as many as 23,676 visits to over 1000 poor patients. The work of the skilled trained nurses has been most valuable in the large and populous district of Peckham, and he sincerely hoped that the association would receive that increase of financial support which it so sorely needed. The Mayor of Camberwell said that Peckham was greatly indebted to Mrs. Charles Ward (Bixley House, Peckham Rye) who founded the work in 1900. The association, in his opinion, was one of the worthiest in the borough. He pointed out that it ministered not only to the needs of the very poor but also attended cases of sickness and operations among the middle classes for a moderate fee. A number of local clergymen and ministers also spoke of the great value of the association's constant and beneficent efforts.

THE VEGETARIAN FEDERAL UNION.

The annual congress in connexion with this union was held on June 17th to 20th in London, and was inaugurated by a dinner held at the Holborn Restaurant on June 17th under the auspices of the London Vegetarian Association. Mr. E. H. J. Frost presided and addresses were given by Mrs. McDouall and Mr. C. W. Forward. Many thoughtful people will sympathise with vegetarians in their efforts to popularise fruits and vegetables as articles of diet, and a right note was struck by a speaker during the proceedings of the congress at the Memorial Hall, Farringdon-street, E.C., on June 19th, who said that the real question which had to be faced was the discovery of the proper foods to build up the body according to temperament. Although the speaker would probably not admit of other than so-called vegetarian articles of diet it is a healthy sign that the aggressive attitude adopted by most "reformers" of stigmatising all who do not agree with them as being unregenerate shows promise of modification by "food reformers."

Fairplay.—The question of residence within the district over which such appointments have jurisdiction is a very difficult one. The Local Government Board is believed to view out-living with disfavour, but, as far as we know, has given no ruling on the matter in any particular case. In these circumstances a public protest would be inadvisable. The case seems a hard one.

I.M.S.—The specific in question was a quack article of no value and its manufacture has, we believe, now ceased.

Sanitas has raised an interesting point which shall receive our attention.

Communications not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

Saturday, June 27th.

Therapeutical and Pharmacological Section (Hon. Secretaries—J. Gray Duncanson, H. C. Cameron).

Kew Gardens Excursion.

11 a.m., Prof. Cushny: Demonstration in the Pharmacological Laboratory at University College. Luncheon.

3.27 p.m., Train from Waterloo to Kew Gardens, where the Members will be conducted round the Gardens by the Curators.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

Wednesday.—8.30 p.m., Lieut.-Col. W. G. Macpherson, C.M.G., R.A.M.C.: Some Practical Points in the Prevention of Disease in Panama and Cuba.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

Tuesday.—5 p.m., Croonian Lecture:—Dr. A. E. Garrod: Inborn Errors of Metabolism.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

Monday.—4 p.m., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 p.m., Lecture:—Dr. G. A. Sutherland: Acute Abdominal Attacks in Children.

Tuesday.—4 p.m., Dr. H. Hackenzie: Clinique (Medical). 5.15 p.m., Lecture:—Dr. T. C. Shaw: The Psychology of Failure and Success.

Wednesday.—4 p.m., Mr. A. H. Tubby: Clinique (Surgical) 5.15 p.m., Lecture:—Mr. E. M. Corner: Modern Treatment of Fractures—the Arm.

Thursday.—4 p.m., Mr. Hutchinson: Clinique (Surgical). 5.15 p.m., Lecture:—Mr. E. M. Corner: Modern Treatment of Fractures—the Leg.

Friday.—4 p.m., Mr. W. Stuart-Low: *Clinique (Throat).*

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

Monday.—12 noon, Dr. Low: Pathological Demonstration. 2.30 p.m., Operations. Medical and Surgical Wards. 4 p.m., Mr. Bidwell: Surgical Cases. 5 p.m., Mr. R. Lloyd: Anæsthetics.

Tuesday.—2.30 p.m., Operations. Medical and Surgical Wards. 3 p.m., Dr. S. Taylor: Medical Cases. 5 p.m., Mr. Pardoe: Some Practical Points in the Surgery of the Prostate.

Wednesday.—12.15 p.m., Dr. Pritchard: Practical Medicine. 2.30 p.m., Operations. Medical and Surgical Wards. 5 p.m., Dr. Beddard: Medicine.

Thursday.—2.30 p.m., Operations. Medical and Surgical Wards. 4 p.m., Mr. Edwards: Surgical Cases. 5 p.m., Mr. Keetley: Clinical Lecture.

Friday.—12.15 p.m., Dr. Pritchard: Practical Medicine. 2.30 p.m., Operations. Medical and Surgical Wards. 5 p.m., Dr. S. Taylor: Malingering.

Saturday.—2.30 p.m., Operations. Medical and Surgical Wards.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince o Wales's General Hospital, Tottenham, N.

Monday.—Clinics:—10 a.m., Surgical Out-patient (Mr. J. H. Evans). 2.30 p.m., Medical Out-patient (Dr. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 p.m., Medical In-patient Clinic (Dr. Whiting).

Tuesday.—Clinic:—10 a.m., Medical Out-patient (Dr. Auld). 2.30 p.m., Surgical Operations (Mr. Carson). Clinics:—Surgical (Mr. Edmunds); Gynæcological (Dr. Giles). 4 30 p.m., Demonstration of Selected Surgical Cases (Mr. H. Evans).

Wednesday.—Clinics:—2.30 p.m., Medical Out-patient (Dr. Whipham); Skin (Dr. Meachen); Eye (Mr. Brooks).

Thursday.—2.30 p.m., Gynæcological Operations (Dr. Giles). Clinics:—Medical Out-patient (Dr. Whiting); Surgical (Mr. Carson); X Rays. 3 p.m., Medical In-patient (Dr. Chappel). 4.30 p.m., Throat Operations (Mr. Carson).

Friday.—10 a.m., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 p.m., Surgical Operations (Mr. Edmunds). Clinics:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 p.m., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

Monday.—2 p.m., Operations. 2.15 p.m., Sir Dyce Duckworth: Medicine. 4 p.m., Mr. L. A. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Ear and Throat.

Tuesday.—2 p.m., Operations. 2.15 p.m., Dr. R. T. Hewlett: Medicine. 3.15 p.m., Mr. McGavin: Surgery. 4 p.m., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Skin.

Wednesday.—2 p.m., Operations. 2.15 p.m., Dr. F. Taylor: Medicine. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 11 a.m., Eye.

Thursday.—2 p.m., Operations. 2.15 p.m., Dr. G. Rankin: Medicine. 3.15 p.m., Sir W. Bennett: Surgery. 4 p.m., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Ear and Throat. 2.30 p.m., Special Lecture:—Dr. Rankin: Myxœdema.

Friday.—2 p.m., Operations. 2.15 p.m., Dr. R. Bradford: Medicine. 3.15 p.m., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Skin.

Saturday.—2 p.m., Operations. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 11 a.m., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Lecture:—Mr. Ballance: Surgery of the Nervous System.

FRIDAY.—3.30 P.M., Lecture:—Dr. A. Turner: Treatment of Epilepsy.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), West London (2.30 P.M.).

TUESDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2 30 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1908, which is completed with the issue of to-day, will be given in the next number of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1908 will be ready shortly. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half year's numbers are now ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach *THE LANCET* Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to *THE LANCET* Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, June 25th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 19	29·82	W.	...	109	73	51	55	62	Fine
" 20	29·86	N.E.	...	121	66	55	55	61	Fine
" 21	30·16	N.E.	...	107	53	52	49	53	Cloudy
" 22	30·17	N.E.	...	111	70	49	49	53	Cloudy
" 23	30·15	W.	...	109	74	53	57	63	Hazy
" 24	30·27	N.E.	...	125	75	57	58	64	Fine
" 25	30·33	N.E.	...	123	67	53	53	57	Cloudy

During the week marked copies of the following newspapers have been received:—*Perthshire Advertiser, Banbridge Chronicle, The Ardrossan and Saltcoats Herald, Reading Mercury, Westminster Gazette, Electrical Review (New York), Broad Arrow, Army and Navy Gazette, Nottingham Guardian, Northern Mail, Wimbledon Gazette, Wimbledon Boro' News, Daily Chronicle, Daily News, Yorkshire Post, Liverpool Courier, Scientific American (New York), Belfast Whig, Glasgow Herald, Pall Mall Gazette, Bedford Times, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. Francis J. Allan, Lond.; Messrs. Armour and Co., Lond.; Messrs. C. G. Adams and Co., Lond.; Addenbrooke's Hospital, Cambridge, Secretary of.

B.—Mr. E. Baker, Birmingham; Messrs. Bedford and Co., Lond.; Birmingham Maternity Hospital, Hon. Secretary of; Mr. S. Bill, Manningtree; British Antitoxine Manufacturing Co., Lond., Secretary of; Mr. J. F. Briscoe, Alton; Mr. W. H. Battle, Lond.; Mr. Frank Townend Barton, Lond.; Messrs. D. Brown and Son, Lond.; Board of Agriculture and Fisheries, Lond., Secretary of; Dr. W. H. B. Brook, Lincoln; Mr. A. A. Bradburne Southport; Mr. F. A. Brockhaus, Lond.; Blackburn and East Lancashire Infirmary, Secretary of; Messrs. Burroughs, Wellcome and Co., Lond.; Messrs. J. Beal and Son, Brighton; Messrs. Blundell and Rigby, Lond.; Dr. G. Granville Bantock, Pinner; Messrs. Sutton Bendle and Co., Lond.

C.—Mr. F. W. Collingwood, Lond.; Messrs. Callard and Co., Lond.; Messrs. Clive and Co., Lond.; Messrs. Crossley and Co., Lond.; Central London Throat and Ear Hospital, Secretary of; Coventry and Warwickshire Hospital, Secretary of; Cape of Good Hope, Trades Commissioner for the, Lond.; Dr. O. J. Currie, Pietermaritzburg; Children's Country Holiday Fund, Lond., Secretary of; Continental Tyre and Rubber Co., Lond.; Chester Corporation, Clerk to the; Mr. John Collingridge, Lond.

D.—Dr. E. H. Douty, Paris; Mr. J. H. Dudgeon, Workington; Mr. A. T. Duka, Bournemouth; Dr. J. L. Dickie, Birmingham.

E.—Dr. J. W. H. Eyre, Lond.; Messrs. Elliott, Son, and Boyton, Lond.; Mr. Frederic Eve, Lond.; Evolutionist.

F.—Dr. F. E. Fremantle, Lond.; Dr. E. Fuld, Berlin; Fair Play; Mr. B. P. Frankfort, Amsterdam; Mr. H. A. T. Fairbank, Lond.; Messrs. Fussell and Co., Lond.; Dr. P. Frank, Lond.; Finsbury Distillery Co., Lond., Manager of; Messrs Flynn and Co., Cork; Dr. P. Ferrerolles, La Bourboule.

G.—Mr. H. Tyrell Gray, Lond.; Dr G Lovell Gulland, Edinburgh; Mr. Archibald E. Garrod, Lond.; Mr. H. M. W. Gray, Aberdeen; Gt Eastern Railway Co., Lond., Continental Traffic Manager of; Mrs. Gihon, Harrogate; G. H.; The Gaggenau Motor Vehicles Co., Lond., Manager of.

H.—Dr. Otto Holst, Eastbourne; Dr. W. J. Howarth, Derby; Mr. Somerville Hastings, Lond.; Colonel E. S. Hastings, Lond.; Mr. H. C. Highton, Lond.; Surgeon Lawrence Hunt, R.N.; Dr. Walter K. Hunter, Glasgow; Mr W. E. Harvey, Portsmouth; Hertford General Infirmary, Resident Medical Officer of; Mr. T. Holland, New York; Messrs. Chas. Hearson and Son, Lond.; H. S.; Horton Infirmary, Banbury, Assistant Secretary of; Messrs. C. J. Hewlett and Son, Lond.; Mr. Cyril Horsford, Lond.

J.—Mrs. Violet Jones, Standford Dingley; J. C. C.; Mr. L. J. Jarvis, Lond.

K.—Dr. H. Cameron Kidd; Bromsgrove; Mr. Skene Keith, Lond.; Messrs. Knoll and Co., Lond.; King Edward VII. Sanatorium, Lond., Hon. Secretary of; Dr. E. Klein, Chislehurst; Messrs. S. Kutnow and Co., Lond.; King Edward's Hospital Fund for London, Hon. Secretaries of.

L. Mr. John Lentaigne, Dublin; Mr. Ernest Leitz, Lond.; Liverpool Stanley Hospital, Secretary of; Lauvaasen Hoifields Sanatorium, Gudbrandsdalen, Norway; Leeds Public Dispensary, Secretary of.

M.—Mr. C. A. Moore, Lond.; Dr. D. Mackenzie, Bowmore; Mr. Horace B Marshall, Lond.; Messrs. C. Mitchell and Co., Lond.; Malling Place, Kent, Medical Superintendent of; Messrs. Maple and Co., Lond.; Manchester Medical Agency, Secretary of; Maltine Manufacturing Co., Lond; Messrs. J. McKenna and Son, Belfast; Mr. E. Merck, Lond.; Manchester Corporation, Clerk to the.

N.—Mr. C. A R. Nitch, Lond.; Dr. David Nicolson, Camberley; Mr. Arthur J. Nettleship, Barton-on-the-Heath; Nottingham Children's Hospital, Secretary of; Northampton County Asylum, Clerk to the; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.; National Association for the Prevention of Consumption, &c., Lond., Hon. Secretary of.

P.—Pasteur Vaccine Co., Paris; Messrs. Parkins and Gotto, Lond.; Peckham Nursing Association, Hon. Secretary of; Paris, Lyons, and Mediterranean Railway, Lond.; Mr. F. T. Pain, Lond.; Messrs. Peacock and Hadley, Lond.

R.—Mr. Henry Rundle, Southsea; Royal Buckinghamshire Hospital, Aylesbury, Secretary of; Radcliffe Infirmary, Oxford, Secretary of; Royal Society of Arts, Lond, Council of; Royal Sanitary Institute, Lond., Secretary of; Royal College of Physicians, Edinburgh, Secretary of; Royal Mineral Water Hospital, Bath, Registrar of; Messrs. J. Robertson and Co., Edinburgh; Mr. W. C. Rivers, Northwood; Royal Mail Steam Packet Co., Lond., Secretary of; Royal College of Surgeons in Ireland, Registrar of; Dr. F. Raymond, Lond.; Messrs. E. J. Reid and Co, Lond.; Royal Society of Medicine, Lond., Secretary of; Messrs. Reynolds and Branson, Leeds.

S.—Mr. S. C. Stewart, Sutton; Sir James Sawyer, Birmingham; Mr. S E Sutcliffe, Knowl; Messrs. G. Street and Co., Lond.; Dr. D. Shannon, Glasgow; Dr. H. Simpson, Deganwy; Mr. Hugh Stott, Lewes; Mr. A. F. Stokes, Saunton Sands; Sanitas; Society of Authors (Incorporated), Lond., Secretary of; Mr. R. E. P. Squibbs, New Lenton; Dr. A. H. Stokes, Lond.; Sanitas Electrical Co., Lond.; Society of Apothecaries of London, Secretary of; *South Wales Argus*, Newport, Manager of; Smith's Advertising Agency, Lond.; Dr. T. D. Savill, Lond.; Dr. P. Blaikie Smith, Alford; Scholastic, Clerical, &c., Association, Lond.; Star Engineering Co., Wolverhampton; Messrs. W. H. Smith and Son, Lond.

T.—Miss M. L. Tyler, Lond.; Mrs E. M. Tilbrook, Lond.; Mr. F. C. Turner, Lond.

V.—Dr. Louis Vintras, Brighton; Messrs. J. W. Vickers and Co., Lond.; Mr. J. C. Van Langendonck, Brussels.

W.—Dr. W. J. Wilson, Belfast; Dr. David Walsh, Lond.; Messrs. F. Williams and Co., Lond.; Dr. Leonard Williams, Lond.; West London Hospital Post-Graduate College; Weston-super-Mare Hospital, Clerk to the; Dr. G M. Wilson, Capelulo; Woodhall Spa Co., Woodhall Spa, Secretary of; Messrs A. Wulfing and Co., Lond.; Messrs. Willing and Co., Lond.; Dr. Ernest Watt, Hamilton; Western General Dispensary, Lond., Secretary of.

Z.—Messrs. C. Zimmermann and Co., Lond.; Messrs. A. and M. Zimmerman, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Ardath Tobacco Co., Lond.; *A. H. M. S.*; *A. F.*

B.—Dr. A. G. Bagshawe, Lond.; Mr. P. Blake, Dundalk; Captain C. R. Bakhle, I.M.S., Bijapur; Messrs. Boots, Nottingham; Burntwood Asylum, Lichfield, Medical Superintendent of; Burton-on-Trent Infirmary, Hon. Secretary of; Mr. C. Basan, Lond.; *Bootle Corporation*, Cashier of Education Committee.

C.—Mr. G. J. Cressy, Woking; Dr. C. H. Cattle, Nottingham; Messrs. *Carters*, Lond.; *C. G.*; Mr. F. W. Clarke, Chorlton-cum-Hardy.

D.—Mr. R. W. Doyne, Lond.; Messrs. Drew and Son, Richmond; Dunelm, Liverpool; Dr. Jean Dardel, Aix-les-Bains; D. J. T.; Devonshire Hospital, Buxton, Secretary of; Mr. C. E. Day, Coniston.

E.—E. R.; E P.

F. Dr. H. S. Frakes, Manchester; Dr. D. C. L. Fitzwilliams, Lond.; F. C. A.; Messrs. L. Farmer and Son, Lond.; Mr. G. Ferrero, Turin; F. B. L.; Mr. F. T. Fagge, Llanfairfechan; Flintshire Education Committee, Mold, Secretary of.

G.—Dr. J. H Griffiths, Woolwich; Messrs. Gilyard Bros., Bradford; G. S., Alexandra Park; Dr. V. R. Gorakshakar, Hyderabad; Dr. H. W. Gardner, Shrewsbury; Messrs. Gould and Portman, Lond.; Messrs. Giles, Schacht, and Co., Bristol.

H.—Mr. J. Heywood, Manchester, H. P. M.; Dr. A. Haig, Lond.; Dr. S. H. Habershon, Lond.; Mr. H. Hancock, Lond.; H. R. D.; Mr. M. Hidayatullah, Jhelam; Mr. J. Hourston, Papa Westray.

I.—Hon. Mrs. Ives, Halstead.

J.—Mr. W. A. James, Lond.; Mr. W. Johnson, Northallerton; J. R. B.; J. H. L. A.; Miss Jackson, Lond.; Mr. D. Jacobs, Lond.

K.—Mr. E. M. Knott, Sutton Coldfield; Dr. T. P. C. Kirkpatrick, Dublin.

L.—Mr. H. K. Lewis, Lond.; Dr. Lazarus-Barlow, Lond.; Captain J. C. Holdich Leicester, I.M.S., Bhowanipur.

M.—Dr. W. J. Mackinnon, Biggar; Messrs. Matthew Bros., Lond.; Mr. B. J. Mayne, Carn Brea; Mental Nurses' Co-operation, Lond., Secretary of; Dr. R. E. Maples, Degama, West Africa; Messrs. Moore and Co., Lond.; Mr. T. F. Meldrum, Altrincham; Mr. W. W. Maxwell, Thames Ditton; Mr. Alexander Morrison, Torquay.

N.—Dr. P. C. Nandi, Calcutta; Mr. F. W. North, Grantham; Dr. R. G. Nothwanger, Newcastle-on-Tyne; Nottingham General Hospital, Secretary of; Northumberland County Education Committee, Newcastle-upon-Tyne, Accountant to the; Messrs. Nicolay and Co., Lond.; North Riding Infirmary, Middlesbro', Secretary of; *Newport* and Monmouthshire Hospital, Secretary of.

O.—Dr. A. W. Oxford, Lond.; Mr. H. C. *Orton*, Lond.; Oldham Guardians, Clerk to the; Mr H. Ohme, Christiania.

P.—Portsmouth Borough Asylum, Medical Superintendent of; Dr. L. C. A. *Pinho*, Bahia; Mr. C. E. Paget, Northampton; Messrs. Potters, Lond.

R.—Messrs. Rebman, Lond.; R. P., Lond.

S.—Miss C. Spicer, Woodford; Messrs. Spiers and Pond, Lond.; South Devon and East Cornwall Hospital, Plymouth Secretary of; St. George's Nauheim Institution, Lond., Secretary of; S. D. S.; S. A. S.; Saarbach's News Exchange, Mainz.

T.—Mr. J. Thin, Edinburgh; T. H. A.; T. C. F.; Mrs. Thompson, Ashby-de-la-Zouche.

V.—Virol, Lond., Secretary of.

W.—Dr. R. L. Woollcombe, Dublin; W. L; W. A. G.; Worcestershire County Council, Worcester, Financial Clerk of; Messrs. W. Wood and Co., New York; Mr. S. Walters Lond.; Winnipeg Bookbindery Manager of; Wolverhampton, &c., General Hospital, Secretary of; Messrs. Wilson and Son, Lond.; Wesleyan Methodist Missionary Society, Lond., Deputy Treasurer of.

Y.—Mrs. York, Earl Shilton; Messrs. Douglas Young and Co., Lond.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.			
One Year	£1	12	6
Six Months	0	16	3
Three Months	0	8	2

TO THE COLONIES AND ABROAD.			
One Year	£1	14	8
Six Months	0	17	4
Three Months	0	8	8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0	5	0
Official and General Announcements	Ditto	0	5	0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0	4	6
	Every additional Line	0	0	6

Situations wanted: First 30 words, 2*s.* 6*d.*; per additional 8 words, 6*d.*
Quarter Page, £1 10*s.* Half a Page, £2 15*s.* An Entire Page, £5 5*s.*

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 31, Rue Bapst, *Asnières, Paris.*

The Croonian Lectures

ON

INBORN ERRORS OF METABOLISM.

Delivered before the Royal College of Physicians of London on June 18th, 23rd, 25th, and 30th, 1908,

By ARCHIBALD E. GARROD, M.A., M.D. Oxon., F.R.C.P. Lond.,

ASSISTANT PHYSICIAN TO, AND LECTURER ON CHEMICAL PATHOLOGY AT, ST. BARTHOLOMEW'S HOSPITAL; SENIOR PHYSICIAN, HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

LECTURE I.

Delivered on June 18th, 1908.

General and Introductory.

Mr. President and Fellows,—It is my first agreeable duty to offer my sincere thanks for the honour conferred upon me in the invitation to deliver the Croonian lectures of the current year before this College. I trust that the subject which I have selected will be found to conform closely to the instructions to the lecturer, for it is one which lies upon the very border-line of physiology and pathology and pertains to both sciences alike; nor is it without bearing upon the control and cure of disease, in so far as no study which helps to throw light upon the complex chemical processes which are carried out in the human organism can fail in the long run to strengthen our hands in the combat with the pathogenic influences which make for its destruction.

The differences of structure and form which serve to distinguish the various genera and species of animals and plants are among the most obvious facts of nature. For their detection no scientific training is needed, seeing that they cannot escape the notice of even the least cultivated intelligence. Yet with the growth of knowledge we have learned to recognise the uniformity which underlies this so apparent diversity and the genetic relationship of form to form. With regard to the chemical composition of the tissues of living organisms and the metabolic processes by which those tissues are built up and broken down, the advance of knowledge has been in the opposite direction, and the progress of chemical physiology is teaching us that behind a superficial uniformity there exists a diversity which is no less real than that of structure, although it is far less obvious. The differences of ultimate composition and crystalline form which distinguish the hæmoglobins of animals of distinct genera have long been known. That the fats of animals are not alike in composition is well recognised, as also are the differences of their bile acids, to quote only a few of the most conspicuous examples. As instances of distinctive end-products of metabolism may be mentioned kynurenic acid, which is present in the urine of animals of the canine tribe and which bears witness to a generic peculiarity in the manner of dealing with the tryptophane fraction of proteins, and the excretion by birds and reptiles of the bulk of their nitrogenous waste in the form of uric acid, whereas in the urine of mammals urea is the chief nitrogenous constituent.

A more extended study even by strictly chemical methods will doubtless serve to reveal innumerable minor differences, such as are foreshadowed by Przibram's[1] work on muscle proteins. The delicate ultra-chemical methods which the researches of recent years have brought to light, such as the precipitin test, reveal differences still more subtle, and teach the lesson that the members of each individual species are built up of their own specific proteins which resemble each other the more closely the more nearly the species are allied. Obviously it is among the highly complex proteins that such specific differences are to be looked for rather than in the simple end-products of their disintegration. The many amino-acids which enter into the structure of the protein molecules are capable of almost innumerable groupings and proportional representations, and each fresh grouping will produce a distinct protein; but all alike in their breaking down will yield the same simple end-products, urea, carbon dioxide, and others.

Nor can it be supposed that the diversity of chemical structure and process stops at the boundary of the species, and that within that boundary, which has no real finality, rigid uniformity reigns. Such a conception is at variance with any evolutionary conception of the nature and origin of species. The existence of chemical individuality follows of necessity from that of chemical specificity, but we should expect the differences between individuals to be still more subtle and difficult of detection. Indications of their existence are seen, even in man, in the various tints of skin, hair, and eyes, and in the quantitative differences in those portions of the end-products of metabolism which are endogenous and are not affected by diet, such as recent researches have revealed in increasing numbers. Even those idiosyncrasies with regard to drugs and articles of food which are summed up in the proverbial saying that what is one man's meat is another man's poison presumably have a chemical basis.

Upon chemical as upon structural variations the factors which make for evolution have worked and are working. Evidences of this are to be detected in many directions, as, for example, in the delicate selective power of the kidneys, in virtue of which they are enabled to hold back in the circulation the essential proteins of the blood but at the same time allow free passage to other proteins which are foreign to the plasma, such as hæmoglobin, egg albumin, and the Bence-Jones protein, when these are present in any but quite small amounts. The working of these factors is also seen in the various protective mechanisms against chemical poisons, such as that which averts the depletion of the fixed alkalies of the organism by the neutralisation of abnormal supplies of acids by ammonia. This mechanism is well developed in the carnivora and in man, but in vegetivorous animals which from the nature of their diet are little exposed to acidosis it appears to be wanting.

Even in the normal metabolic processes the working of such influences may be traced, as in the power which the organism possesses of destroying the benzene ring of those aromatic amino-acids which enter into the composition of proteins and cannot therefore be regarded as substances foreign to the body; whereas the benzene ring of foreign aromatic compounds, with very few exceptions, are left intact, and such compounds require to be rendered innocuous by being combined with sulphuric acid to form aromatic sulphates, or with glycocoll to form the acids of the hippuric group and so combined are excreted in the urine and got rid of. The few exceptions referred to are compounds which so closely resemble the protein fractions in their structure that they fall victims with these to the normal destructive processes.

The great strides which recent years have witnessed in the sciences of chemical physiology and pathology, the newly-acquired knowledge of the constitution of proteins and of the part played by enzymes in connexion with the chemical changes brought about within the organism, have profoundly modified our conceptions of the nature of the metabolic processes and have made it easier to understand how these changes may differ in the various genera and species. It was formerly widely held that many derangements of metabolism which result from disease were due to a general slackening of the process of oxidation in the tissues. The whole series of catabolic changes was looked upon as a simple combustion and according as the metabolic fires burnt brightly or burnt low the destruction of the products of the breaking down of food and tissues was supposed to be complete or imperfect. A very clear setting forth of such views will be found in the lectures of Bence Jones[2] on Diseases of Suboxidation, delivered and published in 1855, but the thesis in question is chiefly associated with the name of Bouchard,[3] who expounded it in his well-known lectures on Maladies par Ralentissement de la Nutrition, published in 1882. The so frequent clinical association of such maladies as gout, obesity, and diabetes was involved in its support, nor was it regarded as a serious obstacle to the acceptance of such views that there is but scanty evidence to show that failure to burn any particular metabolic product, such as glucose, is associated with inability to deal with others.

Nowadays, very different ideas are in the ascendant. The conception of metabolism in block is giving place to that of metabolism in compartments. The view is daily gaining ground that each successive step in the building up and breaking down, not merely of proteins, carbohydrates, and fats in general, but even of individual fractions of proteins and of individual sugars, is the work of special enzymes set apart for each particular purpose. Thus the notion of general suboxidation is reduced to very narrow limits, to the recognition of a controlling influence exercised by certain glandular organs, such as the thyroid, upon metabolism as a whole. For example, it is known that lævulose is not dealt with in the human organism in the same way as dextrose is but follows its own path. A patient whose power of burning dextrose is seriously impaired may yet utilise lævulose in the normal manner. Again, there is evidence to show that the several fractions of proteins, tyrosin, cystin, tryptophane, and the rest, do not merely serve as fuel for a common furnace but are dealt with each in a special manner and in successive stages.

---

[1] Hofmeister's Beiträge, 1902, Band ii., p. 143.

[2] Medical Times and Gazette, 1855, vol. ii., pp. 29-53.

[3] Maladies par Ralentissement de la Nutrition, Paris, 1882.

It may well be that the intermediate products formed at the several stages have only momentary existence as such, being subjected to further change almost as soon as they are formed; and that the course of metabolism along any particular path should be pictured as in continuous movement rather than as series of distinct steps. If any one step in the process fail the intermediate product in being at the point of arrest will escape further change, just as when the film of a biograph is brought to a standstill the moving figures are left foot in air. All that is known of the course of catabolism tends to show that in such circumstances the intermediate product in being is wont to be excreted as such, rather than that it is further dealt with along abnormal lines. Indeed, it is an arguable question whether, under abnormal conditions, the metabolic processes are ever thrown out of their ordinary lines into entirely fresh ones, with the result that products are formed which have no place in the normal body chemistry. It is commonly assumed that this happens, but if the conception of metabolism in compartments, under the influence of enzymes, be a correct one, it is unlikely, *a priori*, that alternative paths are provided which may be followed when for any reason the normal paths are blocked. It is far easier to suppose that in such circumstances normal intermediate products are excreted without further change and that processes which in health play but small parts in metabolism are called into unwonted activity.

This conception of the permanency of the metabolic paths is no new one, for it may be read between the lines in the writings of some physiologists of the last century, and especially in those of Claude Bernard,[4] from which the following passage is translated:—

> It used to be supposed that in diabetes wholly new conditions were developed in the economy, under the influence of the morbid state, and that there resulted therefrom a special morbid product—namely, glucose. But it is admitted nowadays that the observed phenomena are to be explained by an augmentation, pure and simple, of a normal function in virtue of which glucose is formed in all subjects, even in health. It is clear that the malady is nothing more than a physiological phenomenon perturbed and exaggerated.

Still more striking is the following passage[5]:—

> Et maintenant oserait on soutenir qu'il faut distinguer les lois de la vie à l'état pathologique des lois de la vie à l'état normal? Ce serait vouloir distinguer les lois de la mécanique dans une maison qui tombe, des lois de la mécanique dans une maison qui tient debout.

To prove the truth of the contention put forward it would be necessary to show that every abnormal product found in the tissues or in the excreta, under morbid conditions, can be ascribed to other causes than the deflexion of the metabolic processes into new and unwonted paths. It must be admitted that this cannot yet be asserted of all such products. For example, we are still ignorant of the parent substance and mode of origin of the remarkable Bence Jones protein which is excreted in the urine of patients with multiple myeloma, nor is there any evidence as yet forthcoming that it is a normal intermediate product of protein metabolism. Nevertheless, when an endeavour is made to classify the unusual constituents which are occasionally present in that most important animal excretion, the urine, it is found that there are few of them which cannot be accounted for as intermediate products incompletely burnt, or as exaggeration of traces normally present; if we exclude such as are merely foreign substances absorbed from the alimentary canal or derivatives of these, or are products of bacterial life and action in the intestines or in the tissues.

A number of unusual constituents of urine, and of normal constituents also, are derived from the alimentary canal. Thus foreign substances administered in food or as drugs may be excreted unchanged or may undergo oxidation or reduction in the intestine or after absorption, or again may appear in the urine in combination with products of metabolism. These last compounds, which result from the working of the chemical protective mechanisms, cannot be regarded as abnormal excreta. Even in health some tenth part of the total sulphuric acid of the urine is in combination with aromatic substances as ethereal sulphates. Traces of compound glycuronates are also normally present, and the aromatic constituents of vegetable foods are in part excreted in combination with glycocoll as hippuric acid and its allies. When other harmful substances, with which these protective mechanisms are competent to deal, are introduced in abnormal quantities the protective processes are stimulated to unwonted activity.

It does not necessarily follow that the substances which are utilised for such combinations are themselves intermediate products of normal metabolism, for it may well happen that combination has preceded oxidation. Thus the glycuronic acid which is excreted in compound glycuronates may not represent an intermediate stage in the breaking down of glucose as it has been supposed to do, for, as Emil Fischer has pointed out, the oxidation of the alcohol grouping of dextrose, whilst the less stable aldehyde grouping remains intact, is more easily explained on the supposition that the primary combination of the foreign substance is with glucose itself, and that, the aldehyde group being thus protected from change, oxidation to glycuronic acid occurs as a subsequent event.

Some excreta are due to the action of bacteria in the alimentary canal upon the proteins of food or upon constituents of the bile. Thus urobilin is formed by the intestinal bacteria from bilirubin and is abundantly present in the fæces so long as bile enters the intestine. From the intestine some urobilin is absorbed and is excreted in part in the bile and in part in the urine, whilst some of it is probably destroyed in the tissues. Again, from the tryptophane of ingested proteins the intestinal bacteria form indol, which after absorption is oxidised to indoxyl and is excreted in the urine, mainly as indoxyl sulphate, but in part in combination with glycuronic acid. Disease of the actual organs of excretion has conspicuous effects upon the excreta. Thus diseased kidneys may hold back in part some constituents of the urine or, on the other hand, may allow passage to the normal proteins of the blood serum which it is their function to retain in the circulation. Again, by the blockage of a duct, as in jaundice, the products of glandular activity may be thrown back into the blood and appear in the urine, but the presence of such abnormal constituents is in no sense due to errors of metabolism.

Actual derangements of the metabolic processes follow almost any deviations from the normal health, but our interpretation of the urinary changes which result is in many instances greatly hampered by the scantiness of our knowledge of the intermediate steps of the paths of metabolism. Such knowledge as we have of these steps is derived from casual glimpses afforded when, as the outcome of one of Nature's experiments, some particular line is interfered with, and intermediate products are excreted incompletely burnt. Many of the substances which rank as abnormal constituents are present in traces in normal urine as by-products of the metabolic processes, and it may safely be assumed that we are not cognisant of all the traces which so occur. Exceptional methods will reveal traces previously unsuspected. Thus Dombrowski, working with enormous volumes of normal urine (100 litres), was able to demonstrate the presence of minute quantities of cadaverin; and that very delicate instrument the spectroscope reveals traces of hæmatoporphyrin in normal urine which would escape detection by rougher means. Only recently it has been shown that certain sulphur-containing acids, previously unknown, occur in no inconsiderable quantities in normal urine, and even now we do not know with any certainty all the constituents which go to make up the so-called neutral sulphur and residual nitrogen.

The effects of disease of the great laboratory glands, of which the liver is the chief, upon the chemical processes of which they are the seats, are less conspicuous than might be expected. This is perhaps due to the power of a small intact residue of an organ to carry on the functions of the whole, nor must it be forgotten that any very grave interference with the metabolic activities of the liver is incompatible with life. On the other hand, the phenomena of exophthalmic goitre and of myxœdema bear witness to the profound effects of atrophy or disease of a gland which exerts a controlling influence over the metabolic processes as a whole. Some abnormal constituents of urine are believed to be products of undue breaking down of tissues, of autolysis *intra vitam*. Such an origin is now usually ascribed to the tyrosin and leucin excreted in acute yellow atrophy of the liver, and to the albumoses met with in urine.

---

[4] Pathologie Expérimentale, second edition, 1880, p. 15.

[5] Ibid., p. 563.

There is a group of maladies in which metabolic disturbances are by far the most conspicuous features, whereas the structural changes behind them are scanty or even inappreciable. Of such "diseases of metabolism," diabetes, gout, and obesity are the most important. It is still uncertain how far the accumulation of uric acid in the blood and the deposition of sodium biurate in the tissues which are the characteristic features of gout, are actually due to derangement of metabolism, as distinct from a mere excretory defect. In diabetes mellitus, under which name we probably include more than one morbid condition attended by persistent glycosuria, the metabolic derangements, primary and secondary, dominate the clinical picture. At the outset sugar may be excreted in very small quantity and only after a meal rich in carbohydrates; at a later stage the glycosuria tends to become continuous and the percentage of glucose in the urine rises until, in grave cases, the excretion almost ceases to be controlled by diet and the tissue proteins are called upon to supply sugar. By the destruction of fats and proteins the acetone bodies and especially β-oxybutyric acid are formed in increasing amounts, and to them the fatal ending is commonly attributed at the present day, although the accumulation of unburnt glucose in the blood is itself productive of serious evils. The liability to develop diabetes or gout is often inherited but the diseases themselves are not inherited, for they are never congenital. Developing at any period of life, the mischief, once begun, tends to become aggravated as time goes on, but the rate of aggravation differs widely in individual cases and is often conspicuously controlled by appropriate treatment.

Quite unlike that of the above metabolic diseases is the course of the anomalies of which I propose to treat in these lectures and which may be classed together as inborn errors of metabolism. Some of them are certainly, and all of them are probably, present from birth. The chemical error pursues an even course and shows no tendency to become aggravated as time goes on. With one exception they bring in their train no serious morbid effects, do not call for treatment, and are little likely to be influenced by any therapeutic measures at our disposal. Yet they are characterised by wide departures from the normal of the species far more conspicuous than any ordinary individual variations, and one is tempted to regard them as metabolic sports, the chemical analogues of structural malformations. It is interesting to note that as far back as the earlier years of the nineteenth century, one of them, albinism, was classed by Mansfeld[6] and by Meckel[7] as a "Hemmungsmissbildung" or malformation by arrest.

It may be pointed out that the epithets inborn and congenital are by no means synonymous. Structural abnormalities may be present at birth which owe their origin to intra-uterine disease or intra-uterine injury and are in no sense developmental errors. Again, an infective disease may be congenital but cannot be inborn. It has merely been acquired in utero. Even true developmental errors are of several distinct kinds. In some there is malposition or transposition of organs, partial or complete; in others doubling of parts or inclusion of twin structures. Some structural anomalies are malformations by excess such as polydactyly, and some are malformations by defect, such as absence of the middle phalanx of each digit. In one large class, the so-called malformations by arrest, the process of development meets with a check and some portion of the body is left unfinished. To this group belong such abnormalities as hare lip, cleft palate, and spina bifida. Speaking of such arrests Professor J. A. Thomson writes:[8] "These abnormalities occasionally recur repeatedly in a family tree, but it seems probable that what is really inherited is a deficiency in 'developmental vigour' accentuated by nutritive defects on the parts of the mothers during the period of gestation." No extraneous causes, such as intra-uterine injury or disease, can be assigned to the metabolic errors which are under discussion. As far as our present knowledge of them enables us to judge they apparently result from failure of some step or other in the series of chemical changes which constitute metabolism, and are in this respect most nearly analogous to what are known as malformations by defect. It is not only in the field of metabolism that inborn derangements of function are met with, and Daltonism and night-blindness may be quoted as examples of such anomalies having no obvious chemical basis.

At first sight there appears to be little in common between inborn derangements of function and structural defects, but on further consideration the difference is seen to be rather apparent than real. Almost any structural defect will entail some disorder of function; sometimes this is almost inappreciable, but, on the other hand, the resulting functional disorder may be so conspicuous that it completely overshadows the defect to which it is due. Very slight structural changes may lead to profound functional derangements, as witness the effects of atrophy of the thyroid gland, whether congenital or acquired in later life, and the stormy metabolic disorders which may ensue upon comparatively insignificant morbid changes in the pancreas. By selective breeding there has been produced a race of waltzing mice, but their bizarre dance is merely the functional manifestation of an inborn and hereditary malformation of the semicircular canals. In the same way beneath each chemical sport may well exist some abnormality of structure so slight that it has hitherto escaped detection. Among the complex metabolic processes of which the human body is the seat there is room for an almost countless variety of such sports, but the examples which can be adduced are very few in number. Indeed, up to now the only known anomalies which can, with any good show of reason, be assigned to this class are albinism, alkaptonuria, cystinuria, and pentosuria, and even as regards these the reasons for their inclusion in the group are not of equal cogency.

We should naturally expect that among such abnormalities those would earliest attract attention which advertise their presence in some conspicuous way, either by some strikingly unusual appearance of surface tissues or of excreta, by the excretion of some substance which responds to a test habitually applied in the routine of clinical work, or by giving rise to obvious morbid symptoms. Each of the known inborn errors of metabolism manifests itself in one or other of these ways, and this suggests that others, equally rare, which do not so advertise their presence, may well have escaped notice until now. One man in 20,000 whose urine of 24 hours habitually contained a few grammes of aspartic acid might well be overlooked. Theoretically any anomaly which claims a place in the group should be present from birth and should persist throughout life, but it must be confessed at the outset that this cannot as yet be definitely asserted of all the four metabolic errors which I have mentioned. Some of them produce no obvious effects which compel attention, and may only be accidentally detected in adult life, and neither the evidence of the patient himself nor that of his parents can be of any help in endeavouring to trace back the peculiarity to infancy.

That albinism is congenital and persists through life is self-evident and admits of no dispute, for the condition is as obvious as any structural malformation and much more so than many such. Its rarity in man is also evident, although by artificial selection it may be reproduced indefinitely in lower animals.

As regards alkaptonuria its lifelong persistence is equally well established, although it may be that this error, which is in the great majority of instances inborn, may occasionally occur as a temporary phenomenon in disease. The remarkable staining property of alkapton urine allows of its recognition at the very beginning of life, and I have been able to obtain reliable evidence with regard to two cases that the staining of clothing was noticed on the second day of life, and in one of these instances had an opportunity of examining some urine passed during the first ten days after birth.[9] On the other hand an individual who exhibits the anomaly may reach adult life without being aware of any special peculiarity of his urine and the condition may only attract attention when he is an applicant for life insurance or comes under treatment on account of some illness. Winternitz[10] has recorded the interesting fact that the mother of seven children, three of whom were alkaptonuric, was convinced that whereas two of her children had passed alkapton urine from the earliest days of life, this had not been the case with the youngest child, in whom she had only noticed the peculiarity from the age of five years. Such information supplied by a mother familiar with the symptoms of alkaptonuria carries as much weight as any hearsay evidence can carry, but nothing short of actual chemical examination of the urine would suffice to prove a point of so much importance.

---

[6] Archiv für Anatomie und Physiologie, 1825, p. 95.

[7] Handbuch der Pathologischen Anatomie, 1815, Band ii., 2, p. 3.

[8] Heredity, London, 1908, p. 232.

[9] THE LANCET, Nov. 30th, 1901, p. 1484; Transactions of the Royal Medical and Chirurgical Society, 1902, vol. lxxxv., p. 69.

Turning now to cystinuria, the evidence of its congenital occurrence is much more difficult to obtain, for this anomaly is little likely to attract attention in a young infant. Seeing that cystinuria is not infrequently transmitted from parent to child, examination of the urine of the infant children of those who manifest the peculiarity offers the most likely means of settling the point. That it may be present in early childhood there is abundant evidence to show. The first cystin calculus ever examined[11] was taken from the bladder of a child of five years. Abderhalden[12] has placed on record the detection of cystinuria in two children of the same family at the ages of 21 months and 14 months respectively, and Ultzmann[13] the case of a child of two with a cystin calculus who had exhibited symptoms of stone from the age of 12 months. Not a few cases in older children have been described. As affording evidence of the long persistence of cystinuria a case which came under the observation of the late Sir Henry Thompson[14] may be quoted that of an old man, aged 81 years, for whom a cystin calculus was crushed, and who had passed a stone of the same nature 39 years previously. There is reason to believe that cystinuria, like alkaptonuria, is occasionally temporary or intermittent.

No direct evidence of the congenital occurrence of pentosuria, the latest discovered and least known member of the group, is yet forthcoming, and its inclusion is to be justified on other grounds. That it may persist unchanged for years is certain, but the youngest pentosuric yet observed was a boy aged 15 years.[15]

It is probable that the rarity of albinism in man, of which each of us is able to judge from personal observation, is no greater than that of the other inborn errors. My belief is that cystinuria is decidedly the least rare of the four, but C. E. Simon[16] met with only one cystin sediment among some 15,000 urines examined, and Primavera[17] one in 20,000 urines. Another feature which all four anomalies share in common is their more frequent occurrence in males than in females. Of 38 cases of alkaptonuria, presumably congenital, 31 were in males and only seven in females. Of 93 cystinurics collected from the records by Simon 63 were males and 30 females. Of 26 pentosurics, 19 were males and seven females. That males preponderate among albinos has often been stated, but among the cases collected by Ascoleo[18] in Sicily the disparity was comparatively slight, the numbers being 34 males and 28 females. It does not appear that there is any such unequal liability of the sexes to structural malformations, as far as can be judged from figures collected from the records of two hospitals, and in the remarkable family described by Farabee[19] in which many members exhibited a curious malformation by defect—namely, absence of the middle phalanges—the majority of the affected members were females. In a similar family recorded by Drinkwater,[20] male cases slightly preponderated.

To be harmless is no essential attribute of an inborn abnormality, but it stands to reason that an error of metabolism which persists from birth into adult and even into advanced life must needs be relatively innocuous. Albinism, although inconvenient, is certainly harmless, and the most serious direct result of alkaptonuria is the peculiar pigmentation, a variety of ochronosis, which some of its subjects develop in later life. Evidence is accumulating of the harmlessness of pentosuria, and that the excretion of a sugar with five carbon atoms in its molecule has none of the sinister significance of glycosuria. Only cystinuria can be classed as actually injurious, but even its ill-effects, serious as they often are, are not due to the deranged metabolism as such but are secondary, and result from the unsuitability of so sparingly soluble a substance as cystin for excretion by way of a urinary apparatus constructed upon the mammalian plan. Even in the single recorded instances in which death may possibly have resulted from cystinuria, apart from urinary complications, that of an infant aged 21 months, which Abderhalden describes, the deposition of cystin in the tissues was the conspicuous lesion found at the necropsy.

There remains to be mentioned yet another feature which the abnormalities under discussion possess in common—namely, the liability for each of them to occur in several members of a family, most often in collaterals of the same generation. In this respect, of course, they do not stand alone. In connexion with many *actual diseases*, as well as with structural malformations, hereditary influences come into play, and among diseases with none more strikingly than with such metabolic disorders as *diabetes and gout*. Only when taken in conjunction with all the other common features which have already been discussed can their mode of incidence be adduced in support of the view here taken of their nature.

To the students of heredity the inborn errors of metabolism offer a promising field of investigation but their adequate study from this point of view is beset with many difficulties. Save in the case of albinism one is driven to rely upon the casual mating of human beings and the conclusions based thereon cannot be checked by experimental breeding of animals. It is true that cystinuria is known to occur in dogs. A calculus obtained from a dog was described by Lassaigne[21] in 1823, and other examples have since been recorded,[22] but hitherto the diagnosis has only been made after the death of the animal and no opportunity has presented itself of utilising this fact for the advancement of the study of the anomaly. Whether alkaptonuria and pentosuria occur among lower animals is unknown. If they do they are little likely to be recognised.

Again it is naturally far more difficult to collect information as to the occurrence of chemical than of structural anomalies in past generations of a family, save in the case of albinism and possibly of alkaptonuria. Even as regards the relative numbers of normal and abnormal members, a knowledge of which is so important in connexion with questions of heredity, the information available is scanty and unreliable unless based upon personal examination. However, one point which stands out clearly is the remarkable similarity of the modes of incidence of alkaptonuria and albinism, which suggests that the manifestation of both is governed by the same laws. Both are apt to occur in several brothers and sisters of a family whose parents do not exhibit the anomaly and direct transmission of either from parent to child is very rare. It has been repeatedly stated that a considerable proportion of human albinos are the offspring of consanguineous marriages. Thus Ascoleo found that of 24 families which included 60 albino members five were the offspring of the mating of first cousins. In only two instances was albinism directly transmitted from parent to child. Of the cases of alkaptonuria, concerning which the necessary information is forthcoming, a very large proportion have been in children of first cousin marriages. In a paper published in 1902[23] I called attention to this point and more recent cases, although they have somewhat lowered the proportion, have borne out the fact, as will be seen from the following table, in which the more recent cases have been incorporated.

---

[10] Münchener Medicinische Wochenschrift, 1899, Band xlvi., p. 749.

[11] Philosophical Transactions of the Royal Society, 1810, vol. c., p. 223.

[12] Zeitschrift für physiologische Chemie, 1903, Band xxxviii., p. 557.

[13] Wiener Medicinische Wochenschrift, 1871, Band xxi., pp. 286, 307.

[14] Transactions of the Pathological Society, 1870, vol. xxi., p. 272.

[15] Chobola: Centralblatt für Innere Medicin (abstract), 1907. Band xxviii., p. 864.

[16] American Journal of the Medical Sciences, 1900, vol. cxix., p. 39.

[17] Quoted by Piccini e Conti, Lo Sperimentale, 1891, vol. xlv., p. 353.

[18] Archivio per l'Anthropologia, 1871, vol. i., p. 367.

[19] Papers of the Peabody Museum of American Archæology and Ethnology, Harvard, 1905.

[20] Proceedings of the Royal Society of Edinburgh, 1908, vol. xxviii., p. 35.

[21] Annales de Chimie, 1823, 2e s., tome xxiii., p. 328.

[22] Gross, S.W.: North American Medico-Chirurgical Review 1861, vol. v., p. 311.

[23] THE LANCET, Dec. 13th, 1902, p. 1616.

Families the offspring of first cousins.

Names of observers.	Number of alkaptonuric members.
1. Pavy	4
2. R. Kirk	3
3. Garrod	2
4. Erich Meyer	1
5. Ogden	1
6. Hammarsten	2
7. Grutterink and van der Bergh...	1
8. Cronvall	1
	—
Number of families, 8.	15

Families of parents who were not blood relations.

Names of observers.	Number of alkaptonuric members.
1. W. Smith and Garrod ...	2
2. Ewald Stier	1
3. Noccioli and Domenici ...	1
4. Marshall and Futcher ...	3
5. Langstein and E. Meyer	1
6. Garrod and T. W. Clarke	1
7. Grutterink and van der Bergh...	2
8. „ „	4
9. Schumm	1
	—
Number of families, 9.	16*

* In some instances private information has supplemented the published records. For some of the more recent cases the required information is not forthcoming. The new references will be found in the bibliography of Lecture II.

Thus of 17 families eight were the offspring of first cousins and nine were the children of parents who were not related, and of the total of 31 cases 15 fall into the first group. There appears to be a close connexion between the occurrence of an anomaly in several children of normal parents and consanguinity of the parents, a connexion which has been emphasised by Feer[24] in a recent paper. No one would suggest nowadays that the mere fact that the parents are of one blood would cause an anomaly to appear *de novo* in their children but it is obvious that the reappearance of a latent character which both parents tend to transmit is likely to be favoured by the mating of members of certain families.

The statistics as to the proportion of first-cousin marriages in this country are very scanty. Sir George Darwin has calculated[25] that less than 3 per cent. of all marriages are of this class, and Professor Karl Pearson[26] has recently collected some figures which give a percentage of 4·9 first-cousin marriages among the professional classes, a figure which for reasons which he states he regards as probably somewhat too high, and 0·86 among the classes from which patients in London hospitals are drawn. The totals of consanguineous marriages of all degrees in the two classes were 7·76 per cent. and 1·3 per cent. respectively. Hence it is obvious that the proportion of such marriages among the parents of alkaptonuric families is altogether abnormal. On the other hand, the proportion of alkaptonurics among children of such marriages must be very small indeed. Only some 50 to 60 cases of alkaptonuria have been recorded in Europe and America, whereas in London alone there are probably many thousands of children of first cousins.

It was pointed out by Bateson,[27] and has recently been emphasised by Punnett,[28] that the mode of incidence of alkaptonuria finds a ready explanation if the anomaly in question be regarded as a rare recessive character in the Mendelian sense. Mendel's law asserts that as regards two mutually exclusive characters, one of which tends to be dominant and the other recessive, cross-bred individuals will tend to manifest the dominant character, but when they interbreed the offspring of the hybrids will exhibit one or other of the original characters and will consist of dominants and recessives in definite proportions. Mendel's theory explains this by the supposition that the germinal cells or gametes of each generation are pure as regards the qualities in question and accounts for the numerical results observed by the production of dominant and recessive gametes in equal numbers. Of the offspring of two hybrids, one quarter will result from the union of two dominant gametes and will produce such gametes only; another quarter will result from the union of recessive gametes and will produce only recessive gametes. The remaining half will themselves manifest the dominant character, but will be hybrids like their parents and will produce gametes of both varieties. Only when two recessive gametes meet in fertilisation will the resulting individual show the recessive character.

If the recessive character be a rare one many generations may elapse before the union of two such gametes occurs, for the families in which they are produced will be few in number and the chance that in any given marriage both parents will contribute such gametes will be very small. When, however, intermarriage occurs between two members of such a family the chance will be much greater, and of the offspring of such a marriage several are likely to exhibit the peculiarity. The rarer the anomaly the more conspicuous should be the influence of consanguinity. When a recessive individual mates with an apparent dominant who produces gametes of both kinds a larger proportion of the offspring will be recessives, and we should expect that recessive children of a recessive parent, but whose other parent is apparently normal, will occasionally be met with. Of such direct transmission of alkaptonuria from parent to child, the other parent not being alkaptonuric, two examples are known. One of these was observed by Osler.[29] An alkaptonuric father whose brother also showed the anomaly had an alkaptonuric son. The second case, which was recorded by Ossi,[30] was that of a mother and her son and daughter, all alkaptonuric. Lastly, when recessive mates with recessive all the offspring should manifest the recessive character, but no such marriage of alkaptonurics is known to have occurred. Whereas in animals, such as mice, which produce a numerous progeny, the proportions of dominants and recessives among their offspring can be readily observed, the results of the chance matings of human beings, who are so far less prolific, are far less demonstrative.

It must be confessed, indeed, that as regards human characteristics the relative numbers of dominant and recessive offspring have often departed widely from these required by Mendel's law, but a number of sources of error will tend to vitiate such results. Experience has shown that the information supplied as to the normality or otherwise of other members of a patient's family can seldom be relied upon, and this is especially the case with chemical anomalies. An individual in middle life seldom knows much about his brothers and sisters who died in infancy. Miscarriages must be taken into account, and again the figures supplied may relate to incomplete families and may be profoundly modified by subsequent births. For the above reason little importance is to be attached to the figures available with regard to alkaptonuria, but those contained in the following table, which relate to 17 families, are given for what they are worth :—

—	Observers.	Total number in family.	Normal members.	Alkaptonuric members.
Family No. 1	F. W. Pavy.	14	10	4
„ 2	Noccioli e Domenici.	10	9	1
„ 3	Ogden.	8	7	1
„ 4	Zimper.	8	6	2
„ 5	Winternitz.	7	4	3
„ 6	Langstein and E. Meyer.	6	5	1
„ 7	Schumm.	6	4	2
„ 8	Garrod.	5	3	2
„ 9	R. Kirk.	4	1	3
„ 10	Bandel.	4	2	2
„ 11	Hammarsten.	4	2	2
„ 12	W. Smith and Garrod.	3	1	2
„ 13	Baumann and Embden.	2	0	2
„ 14	Ewald Stier.	2	1	1
„ 15	Erich Meyer.	1	0	1
„ 16	Garrod and Clarke.	1	0	1
„ 17	Cronvall.	1	0	1
Totals		86	55	31

Although the totals show that the normal members largely preponderate they do not approach the requirements of Mendel's law, according to which a recessive character should appear in one quarter of the offspring; the alkaptonurics should number 21 or 22 instead of 31. It is clear that the figures as they stand are not fair to Mendel, for in the last three families the affected members were only children, and in families 15 and 16 might be classed as first children. One would expect to obtain a more accurate estimate by confining our attention to the larger families, and it is noteworthy that if one takes families 1 to 8, each containing five or more children, the totals work out in strict conformity to Mendel's law, in the proportions 4 : 3 : 1. However, to draw the line at families of five and upwards is a purely arbitrary proceeding.

---

[24] Jahrbuch für Kinderheilkunde, 1907, vol. lxvi., p. 188.

[25] G. Darwin: Journal of the Statistical Society, 1875, vol. xxxviii., p. 153.

[26] K. Pearson: Brit. Med. Jour., 1908, vol. i., p. 1395.

[27] Report of the Evolution Committee of the Royal Society, 1902, No. 1, p. 133, note.

[28] Proceedings of the Royal Society of Medicine, 1908, vol. i., p. 143.

[29] See Garrod, THE LANCET, Dec. 13th, 1902, p. 1617.

[30] Gazzetta Medica Lombarda, 1889, vol. xlviii., p. 115.

The patients of Baumann and Embden were a brother and sister born out of wedlock, but it is not quite clear from the record whether they were the only children of the union. Both parents subsequently married away and had children, none of whom were alkaptonuric. Two recorded alkaptonurics were twins and in one case the second twin was certainly and in the other was probably normal.[31] In each instance the normal twin died and the alkaptonuric survived. The twins were of the same sex in both cases.

It appears to me that the strongest argument which can be adduced in favour of this view that alkaptonuria is a Mendelian recessive character is afforded by the fact that albinism, which so closely resembles it in its mode of incidence in man, behaves as a recessive character in the experimental breeding of animals.[32] Nor do the figures quoted by Bateson[33] relating to the proportion of albino members in human families show any more close conformity to the requirements of Mendel's law than do those above quoted for alkaptonuric families.

Evidence is accumulating of the occurrence of pentosuria in brothers and sisters,[34] and no instance of its transmission from parent to child has yet been recorded. Of consanguinity of parents of the subjects of this abnormality nothing is yet known. There is some evidence of a special liability of the Jewish race.

The available evidence regarding the inheritance of cystinuria is much more scanty than that relating to alkaptonuria. This is largely due to the less obvious character of the anomaly, for it is only by careful examination of the urine of each member of a family that any certainty can be reached as to the numbers of cystinuric and normal members. A cystinuric does not necessarily form calculi, and at any given time his urine may deposit no crystals, nor are the statements of patients as to other members of their families of any value in this connexion save that a history of several cases of stone may be suggestive. Such information as is forthcoming points to a greater frequency of direct transmission from parent to child than is met in connexion with the other metabolic errors, and cystinuria has been traced with certainty in three successive generations. Thus in the family investigated by Abderhalden the paternal grandfather and father were cystinuric, whereas the mother was normal. Of five children one had died with symptoms of inanition at 21 months and deposits of cystin were found in its tissues; two others had died with like symptoms at nine and 17 months respectively, but were not known to excrete cystin. The surviving children, aged five and a half years and 14 months respectively, were both cystinuric. Such large proportion of cystinuric members as was here met with has been observed in other families. In one which Cohn[35] described a cystinuric mother and a normal father had 12 children. The urine of two of them could not be obtained, but of the remaining ten no less than seven excreted cystin. Again, Pfeiffer[36] records four children of normal parents who were, as he has informed me, first cousins, all of whom were cystinuric. The two children of one of the affected daughters were normal. The frequency of direct inheritance and the large proportion of the offspring affected suggest that if cystinuria be transmitted on Mendelian lines it is probably a dominant rather than a recessive characteristic.

Hitherto we have been considering these inborn errors of metabolism collectively, the points which they have in common, and the grounds for regarding them as constituting a distinct group of anomalies. But each one of them presents peculiar features of much interest which amply repay detailed consideration, if only on account of the light which their study throws upon the chemical processes at work in the normal human organism.

ALBINISM.

Of albinism I propose to speak very briefly, for its study from the chemical side has scarcely begun. In the fairly extensive literature of the subject much space is devoted to the ocular troubles which are connected with it; some authors have treated of its hereditary aspects; the question whether albinism carries with it any impairment of bodily or mental powers has been widely discussed but the actual nature of the anomaly has hardly been touched upon. Clearly it is an abnormality of a different kind from the others here under discussion which manifest themselves by errors of excretion. In albinism there is a defect of substances which are normal constituents of certain specialised tissues and which serve purposes of much utility to the organism. It is not necessary to enter upon any discussion of the question whether it should be classed as an error of anabolism or of catabolism. The work of F. G. Hopkins[37] upon the utilisation of excretory products in ornament, as exemplified in the employment of uric acid in the pigmentation of white butterflies of the genus Pieris, is of interest in this connexion, but it is probable that in insects, as in birds and reptiles, the excreted uric acid is largely formed by synthesis, as the breaking-down of nuclein does not provide an adequate source for the yield.

The essential phenomenon of albinism is the absence of the pigments of the melanin group which play the chief part in the colouration of man and lower animals and which serve the important function of rendering the eye a dark chamber. There are various kinds of melanins, but all alike are wanting in albinos, as witness the white hair, pink eyes, and unpigmented skin which characterise such individuals. Pigments of other kinds are not wanting, such as the lipochromes which impart their yellow tints to fats and blood serum, and hæmoglobin and its derivatives. In the urine of albinos I have found the same pigments as are ordinarily present. The fact that albinos of certain birds, such as the peacock, which are normally characterised by the brilliancy of the colouring of their plumage, are quite white, does not invalidate the truth of this statement. Their brilliant tints are interference colours, due to physical structure and not to pigmentation, and the absence of such colours is merely due to the lack of a dark background for their display, and such a background the melanins with their sombre hues provide. In the feathers of the albino peacock the iridescent tints are faintly visible in certain lights.

Our knowledge of the chemistry of melanins is still very imperfect. Their sulphur content varies widely; some contain iron, others do not. The presence of iron has been held to indicate an origin from hæmoglobin, but the trend of opinion at the present day is towards the view that they are derived from proteins in general, perhaps by the action of a tyrosinase upon tyrosin, and that the natural melanins are allied to the melanoid substances which are formed during the hydrolysis of proteins. If, as has been suggested, white hair contains a white chromogen and is pigmented and not merely devoid of colour; if also this is true of albino hair as well as that of white animals not albinos, we may suppose that the chromogen merely fails to be converted into the dark pigments in the ordinary way.

Three possible explanations of the phenomenon of albinism suggest themselves. We might suppose that the cells which usually contain pigment fail to take up melanins formed elsewhere; or that the albino has an unusual power of destroying these pigments; or again that he fails to form them. Some experiments of Kobert,[38] who injected solutions of melanin into rabbits, seem to negative the notion of an unusual destructive power. The animals excreted melanin, or rather its chromogen melanogen, in their urine. Kobert mentions that some of the animals injected were albinos, but does not say that they behaved any differently in this respect from the pigmented rabbits. The injection caused no pigmentation of the hair or eyes of albino rabbits, nor is it to be expected that it would do so whichever of the above hypotheses be correct. It is very unlikely that the melanin is conveyed to the pigmented cells and there deposited, for all the evidence available indicates that the pigment is formed *in situ*, probably by the action of intracellular enzymes. If the melanin were formed in albinos and merely not utilised we should expect it to be excreted by them in the urine, which is not the case. Only certain specialised cells appear to have the power of forming melanin, and in cases of melanotic sarcoma these are enormously multiplied, and there is a correspondingly increased production of pigment which may find its way into the blood and be excreted in the urine. Such an increase is only to be explained on the supposition that the pigment is actually formed in the tumour cells. In favour of this view is also the fact that melanotic tumours apparently originate only in structures in which melanins are normally present, such as the eye and skin, and possibly in the pineal gland, which as a vestigial remnant of the pineal eye of certainly lowly animal forms may retain some pigment forming power.

---

[31] Noccioli e Domenici: Gazzetta degli Ospedali, 1898, vol. xix., p. 303. D. Gerhardt: Münchener Medicinische Wochenschrift. 1904. Band li., p. 176.

[32] Castle and Allen: Proceedings of the American Academy of Arts and Sciences, 1903, vol. xxxviii., p. 603.

[33] Brit. Med. Jour. 1908, vol. i., p. 1252.

[34] Brat: Zeitschrift für Klinische Medicin, 1902, Band xlvii., p. 499. Bial: Berliner Klinische Wochenschrift, 1904, Band xli., p. 556, and others.

[35] Berliner Klinische Wochenschrift, 1899, Band xxxvi., p. 503.

[36] Centralblatt für Krankheiten der Harn- und Sexual-Organe, 1897, Band viii., p. 173.

[37] Philosophical Transactions of the Royal Society, 1895, clxxxvi., B. p. 661.

[38] Ueber Melanine, Wiener Klinik, 1901, Band xxvii., p. 99.

The hypothesis of local formation also supplies the easiest explanation of the phenomena of partial or local albinism, such as is seen in the Himalayan rabbit, which has the pink eyes of an albino but the hair of which is always pigmented at certain points. The partial albinism seen in man, in which the hair retains a certain amount of colour, and especially the rare form in which red hair is associated with pink eyes, a variety which has been met with in one albino of several in a family, the others conforming to the ordinary type,[39] is a phenomenon calling for careful investigation.

The ordinary physiological causes of pigmentation are not operative in albinos. In them exposure to the sun does not cause the usual tanning of the skin which is seen in normal individuals; a mere hyperæmia results. It has also been observed that in female subjects the pigmentation of the areolæ of the nipples and of other parts, which usually accompanies pregnancy, is not developed.[40] I know of no observations on the occurrence in albinos of tumours originating in the eye and running the course of melanotic sarcomata. One would expect that such growths, if they occur, would fail to be pigmented. Nor does there appear to be any record of Addison's disease occurring in such subjects which might throw important light upon the question whether the Addisonian pigment is a true melanin. Taking all the known facts into consideration, the theory that what the albino lacks is the power of forming melanin which is normally possessed by certain specialised cells is that which has most in its favour and is probably the true one. If so, an intracellular enzyme is probably wanting in the subjects of this anomaly, an explanation which, as we shall see later, brings albinism into line with some other inborn metabolic errors, of which a similar explanation is at least a possible one.

I must not omit to mention that there are indications that the differences between albinos and normal individuals are not confined to the absence or presence of melanins in the tissues. In animals differences have been observed in the matter of liability to certain infections, and clinical observations of the incidence of infective diseases upon human albinos would be of considerable interest. Halliburton, Brodie, and Pickering[41] found that intra-vascular injections of nucleo-proteins failed to produce in albino animals such clotting as they cause in pigmented ones. G. R. Mudge,[42] who has carried out a number of such experiments, found that all albinos do not behave alike in this respect. Differences were also observed between the results of the injection of nucleo-proteins derived from albino and pigmented animals respectively. He arrived at the conclusion that an albino animal requires a larger dose of nucleo-protein per kilogramme of body weight to cause death by intra-vascular clotting. Pickering's[43] remarkable observation that the Norway hare when in its winter coat behaves as an albino when injected with nucleo-protein, but in its summer coat as a pigmented animal, opens up the most interesting question of the relation, if any, of the change of coat in Arctic animals to albinism.

It will be clear from the above fragmentary sketch that even the lines along which the systematic study of albinism may profitably be directed are only beginning to indicate themselves. The carrying out of such a research remains as a task for future workers.

---

[39] Folker: THE LANCET, May 31st, 1879, p. 795. Nettleship: Transactions of the Ophthalmological Society, 1906, vol. xxvi., p. 244.

[40] B. W. Richardson: Dublin Hospital Gazette, 1856, vol. iii., p. 73.

[41] Journal of Physiology, 1894, vol. xvii., p. 148.

[42] Proceedings of the Royal Society, 1907, Series B., vol. lxxix., p. 103.

[43] Journal of Physiology, 1896, vol. xx., p. 510.

ON THORACOSTOMY IN HEART DISEASE.

By ALEXANDER MORISON, M.D. EDIN.,
F.R.C.P. LOND. & EDIN.,
PHYSICIAN TO THE GREAT NORTHERN CENTRAL HOSPITAL.

IN a paper published in THE LANCET of July 28th, 1906, and read before the Æsculapian Society of London on April 30th in the same year, I considered the circumstances of the normal growth and action of the heart and the manner in which hypertrophy of the organ is influenced by its adhesion to the pericardial sac and extraneous structures. I remarked in conclusion: "To return to our embryo, the growing organ requires a surplus of room to grow in; the overgrown organ requires more room to work in, and it may be that tethered by extraneous adhesion or not so restricted the hypermyotic heart may in the future, and in some cases, be provided with such by the genius and courage of some surgeon bold enough to undertake the task" (p. 212).

I was not aware until I read Professor Wenckebach's paper on Some Points in the Pathology and Treatment of Adherent Pericardium in the *British Medical Journal* of Jan. 12th, 1907, that Professor Brauer, at that time of Heidelberg, had induced Professor Petersen and Dr. Simon to perform an operation for the relief of cardiac motion in such cases with success so long ago as 1903,[1] and had termed his operation cardiolysis. Dr. William Mackenzie of Melbourne, unaware, like myself, of Brauer's work in cardiolysis, gave very definite instructions for a proposed operation for freeing the heart from costo-pericardial adhesions in the *Intercolonial Medical Journal* of Sept. 20th, 1906. Dr. Mackenzie even advocated removal of a portion of sternum as well as the ribs, a procedure which Dr. Simon adopted in two of Brauer's cases.

It is a subject which has long interested me and in my book on "Cardiac Failure," published in 1897, I had suggested the severing of pericardial adhesions for the relief of cor bovinum which, I stated, would be "an ideal triumph of modern surgery" (p. 88). A reviewer of my book remarked that I had in any case exhibited a "triumph of the imagination," but appeared to be of opinion that the safety of mankind would be consulted by my suggestion not being taken seriously. Since then there has, however, been a growing conviction in my mind that it was less the tethering of the heart than its *bulk* and force of systole which were the determining factors in the situation and that operation to afford room adequate for the free action of the enlarged organ was the primary consideration whether the organ itself were tethered or not. One has so often observed post mortem a large muscular heart usually associated with aortic valvular disease and without extraneous adhesion, succumb to the mechanical difficulty, while possessing apparently an amount of wholesome muscle which one would, *a priori*, have imagined should have contended with the obstacle in the circulation for a much longer period had it not been exhausted by some other cause.

Brauer's suggestion that the adhesions in adhesive pericarditis should be left alone and the incarcerated heart freed from bony encasement, together with the successful issue of the operations consequent on his suggestion, pointed the way to a wider application of his method. Whether the term "cardiolysis" would be the most appropriate one to designate an operation which had to do, not with loosening the heart from adhesion, but with providing the overgrown organ with more room, and saving it the shock of impact against bone, may be questioned. Thoracostomy is, perhaps, too general a term to indicate its special application to the relief of intra-thoracic pressure exerted upon the heart, or induced by a large and powerfully pulsating organ confined within the thorax, because, as we know, thoracostomy may be employed for various conditions not directly due to cardiac causes. But, qualified by words denoting its special application in particular cases, there seems no insuperable objection to the substantive use of a more general term. I have preferred, therefore, in the following paper, to use the phrase thoracostomy in heart disease, to the more specific cardiolysis of Brauer.

---

[1] Archiv für Klinische Chirurgie, vol. lxxi.

In a paper published in THE LANCET of August 24th, 1907, which, like that on Pericarditis, had also been previously read before the Æsculapian Society, I further emphasised the principle of operative interference to relieve intrathoracic pressure, both when the mere bulk of the organ was the chief feature in the case and when, as in irremoveable mediastinal tumour, the heart was secondarily involved in the neoplastic growth. I referred in that paper, but without giving details, to a case of the latter kind then under my care in which thoracostomy with this object had been performed with benefit, on my suggestion, by my colleague Mr. Ewen C. Stabb. I had not, however, at that time had an opportunity of applying the principle, as I contemplated doing, to the much more important, because more frequently occurring, cases and those more amenable to treatment, in which *size* of heart, with or without adhesions, was the principal feature of the case, but closed the paper with the following words: "The question arises, whether mere bulk is not a disadvantage in these circumstances, and whether, therefore, the justification does not arise for attempting to relieve pressure by the removal of a portion of the ribs and cartilages in the precordia, in obedience to the indications given by the precordial bulging of children, even when it may be assumed that pericardial tethering is absent. I think personally we shall soon be justified in this matter in following John Hunter's advice to Jenner, when the latter was too timid to vaccinate, but thought he might do so with safety. 'Why think,' said Hunter, 'Do it.' I believe we shall also in this matter be able to 'do it' with safety and benefit, both to patients and our own reputation" (p. 508). Since then an operation for the relief of cardiac pain associated with an enlarged heart in a case of double aortic valvular disease under my care has been performed, again by Mr. Stabb, and certainly so far with very encouraging and, indeed, interesting results. Before, however, relating this case more fully, some remarks upon method may be made.

In Brauer's first case, which was operated upon by Petersen of Heidelberg on April 1st, 1902, it is stated that 7, 8, and 9 centimetres respectively of the third, fourth, and fifth ribs were resected. In his second case, operated upon on May 20th, 1902, Dr. Simon is stated to have operated more extensively and removed a portion of the sternum at the same time as ribs which are not specified. This was also done by him in a third case.[2]

I have been privately informed that a fourth case has undergone operation under Professor Brauer's supervision at Marburg, and, as I have stated, Professor Wenckebach of Groningen has published details of a case done on his suggestion by Professor Koch in which "cartilages and parts of the fourth to the seventh ribs" were removed. These were all assumed to be cases in which there had been adhesive pericarditis within and without the sac, and in one of Brauer's cases which died from pneumonia a year after operation pericardial tethering was shown post mortem to exist. Brauer enters at some length into the differential diagnosis of adherent pericardium[3] and revives as a diagnostic sign the value of diastolic impulse, without apparently being aware of the fact that Hope had minutely described the same phenomenon as diagnostic of hypertrophy in his work on "Disease of the Heart" published in 1839 (third edition).

That a correct diagnosis should be arrived at if possible as to the presence of pericardial tethering is, doubtless, important, as it would naturally guide the surgeon as to the method he adopted in operating, and more especially as to whether a portion of the sternum as well as the ribs should be resected. William Mackenzie's suggestion that a portion of the fifth rib-cartilage should first be removed as an exploratory aperture seems valuable. "This removal of the 5th," he remarks, "I regard as the key-stone of the operation. If the intrapleural area is free we have settled in a few minutes the diagnosis of *adherent pericardium*, and on that ground alone I consider the *operation is justifiable*. If we are unable to feel the intrapleural area we know there are adhesions."[4] The presence of such costo-pericardial adhesions, with which in the case of enlarged heart it may be assumed that visceropericardial adhesions are associated, may indicate the removal of a portion of the sternum in addition to the ribs, as practised by Simon in two of Brauer's cases. But, if the clinical phenomena can exclude such adhesion, which, it will be admitted, is often a difficult matter, and, especially in aortic cases, in which the character and direction of hypertrophy usually displace the volume of the left ventricle downwards and to the left, it will probably be found that the best guide in most cases to the amount of thoracostomy necessary will be the area of forcible cardiac impulse, and that the removal of ribs and cartilages without interference with the sternum will fulfil every purpose. It may be unwise to give the heart too much room to act in; it is certainly quite possible to give it too little. With this preface I shall now proceed to relate the clinical history of a case under my care at the Great Northern Central Hospital in which Mr. Stabb performed, at my request, the operation of thoracostomy for cardiac pain associated with an enlarged heart.

A clerk, now 19 years of age and single, was admitted on Dec. 12th, 1907. He first came under my notice on Nov. 22nd, 1901, when he was a schoolboy 13 years of age, and I was physician to out-patients. At that time I made the following note: "Aortic regurgitation. Pain in the left side. Ill some months. No serious illness. 'A little rheumatism' four or five years ago in wrist and knees. No chorea. Heart's apex beat fifth space three inches from mid-sternum. Left ventricular dulness third rib. Right auricular dulness one inch beyond right edge (of sternum). Bruit with thrill at apex, presystolic. Bruit not heard in back. At right base soft aortic diastolic. Carotid pulsation exaggerated. Lungs normal." A year later (Nov. 7th, 1902) I have the note, "Aortic diastolic, but at apex outside nipple line triple rhythm," and on July 1st in the same year, "The chief lesion is aortic regurgitation with a thrill at the apex post-systolic in time and running up to systole." In the interval between this time and December, 1907, I have no personal knowledge of his condition. The disablement which resulted in his admission to hospital at the date mentioned began five months previously. Till then he had gone to work although never strong and suffering a good deal from breathlessness and pain in the chest.

On admission the patient exhibited in an exaggerated degree the well-marked phenomena of aortic valvular disease. The heart's apex beat was in the fifth and sixth spaces about four inches from mid-sternum. The area of cardiac dulness was increased. There was visible pulsation in the intercostal spaces to the left of the sternum, with exaggerated systolic impulse in the carotids and suprasternal space. The cardiac action on palpation was heaving and concussive, with pronounced diastolic thrill over the aortic area. On auscultation a loud and coarse systolic and diastolic bruit was audible at the aortic base and at the apex a rumbling presystolic murmur. His pulse-rate was 88 to 92; its rhythm was regular and its character was of the well-known water-hammer type. The blood pressure, determined by the Riva-Rocci instrument, is noted to have been 125 to 130 millimetres of mercury. Respiration was shallow but there was no evidence of lung disease. His other organs were normal and there was no anasarca or effusion into any of the cavities or cellular textures of the body. The urine was free from albumin.

The patient remained in hospital about five weeks, being discharged on Jan. 18th, 1908. He was treated by rest and cardiac tonics, taking in the first instance strychnine and belladonna with nitrite of amyl to relieve his anginoid pain, and, later, as he made little progress, with strychnine, stropthanthus, and digitalis, which increased the force of systole without relieving his pain. His systolic blood pressure is noted on Jan. 3rd, 1908, as having been 160, and his attacks of pain varied in frequency and intensity but were apparently severe at times. The pain was retrosternal and across the chest but did not radiate into the arms.

---

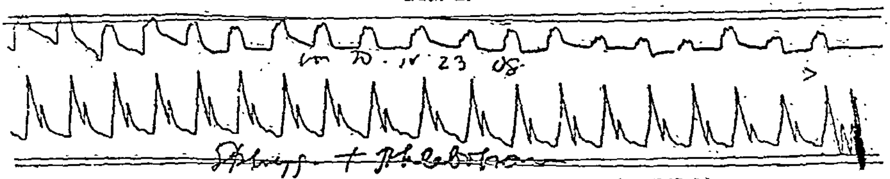
[2] Verhandlungen der Deutschen Gesellschaft für Chirurgie, Band xxxii., p. 133, et seq.

[3] Loc. cit., ii., p. 84.

[4] Loc. cit., p. 495.

There was considerable mobility of the heart's apex beat, which is noted by me as having been 9½ centimetres from mid-sternum in the fifth space when lying on the back, 6½ centimetres from the same point on right decubitus, and 11 centimetres from the tip of the xiphoid process to its beat in the sixth space when lying on the left side. From this I considered it improbable that he had any costo-pericardial adhesion. His condition appeared to be stationary. The attacks of pain, which frequently occurred at night as well as during the day, kept him awake. Although he was able to walk about gently and take his meals regularly he made little progress towards greater activity with comfort but exhibited none of the phenomena of progressive retrograde stasis. Under these circumstances he was discharged from hospital, advised to take cardiac tonics and rest at home, and to report himself from time to time. Before he left I informed his father that I believed thoracostomy might be of service to him but in nowise urged the operation, as I could not speak from experience, direct or indirect, as to its effect in a similar case.

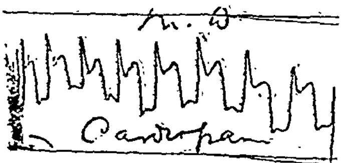
FIG. 1.



Cervical phlebo-arteriogram and radial sphygmogram. (April 23rd.)

Thus the matter rested until April 13th when he was readmitted under my care, having reported himself from time to time without any evidence of recuperation, and suffering more than previously from cardiac pain, over which the inhalations of nitrite of amyl appeared to be losing their power. He was admitted on the understanding that, if he showed no satisfactory improvement, the operation I had suggested should take place. On the 18th I noted that the area of cardiac dulness measured 5½ by 5½ inches, the apex beat was in the sixth space 5 inches from mid-sternum, the area of palpable concussion measured 3 by 4 inches and was covered by the fifth and sixth ribs over an extent of 4 inches including their cartilages, while the other physical signs were as before. The anginoid attacks were often severe but varied in frequency. They occasionally lasted from a quarter to half an hour. On the 24th, some time after an attack had passed off with the use of nitrite of amyl, his pulse-rate is noted as 138, his respirations as 24, and breathing capacity as determined by Lowndes's spirometer as 60 cubic inches. On the 27th it is noted that the patient's "condition (was) unchanged. Fewer anginoid attacks than usual during the last 24 hours. Heart as before: Blood pressure 170 mm. (systolic), 100 mm. (diastolic). Urine normal." His temperature had throughout been normal and the accompanying tracings (Figs. 1 and 2) show the character of his cardiac and arterial pulsations on April 23rd.

FIG. 2.



Cardiogram. (April 23rd.)

My previous experience of such cases had been that relief from cardiac pain was only obtainable by increasing doses of trinitrine, while short intervals of improved cardiac action were not always to be expected, and even if they occurred they did not long postpone the deteriorating signs which heralded the ultimate failure of the heart. I therefore determined to afford the enlarged heart more room to act in, while its power was still good, and asked Mr. Stabb to secure free space for cardiac systole without the incarcerating barrier of hard rib, in the area of thoracic concussion. This he very skilfully did on May 1st in the following manner. A U-shaped incision with its descending limb in the centre of the sternum commenced at the level of the sternal attachment of the third rib. Sweeping round at the level of the seventh rib the ascending limb of the incision was carried to a point corresponding with its commencement. A large flap was thus secured and raised, consisting of superficial textures and muscle down to the ribs. This was turned back and spread between warm moist towels. The fourth and fifth intercostal spaces were next cleared down to pleura and the fifth rib, covered by its periosteum and perichondrium, carefully separated from the underlying pleura and 4½ inches of its length from the sternum outwards, were removed in three pieces. The sixth rib was similarly cleared and 5½ inches of it were removed in one piece, its greater arching allowing more easy detachment without injury to pleura. The internal mammary artery required ligature. A small puncture was made in the pleura while the last portion of the fifth rib was being removed, air being aspirated through it during respiration. The puncture was stitched but was not rendered quite air-tight thereby. The raised flap was then replaced and accurately applied by alternate fishing-gut and horsehair sutures, a drainage-tube being inserted at the lower external angle of the wound and left in position for 24 hours, when it was renewed. After removal of the ribs and display of the underlying movements of the heart the latter appeared to be smooth, rolling, and without adhesion to the extraneous structures exposed. Mr. C. H. C. Visick administered the anæsthetic (chloroform) with the Vernon-Harcourt apparatus, the patient taking it well. Towards the end of the operation strychnine was injected hypodermically, rather as a precautionary than necessary measure. The wound healed by first intention, except at the point of issue of the drainage-tube, where a little leaking continued for a short time.

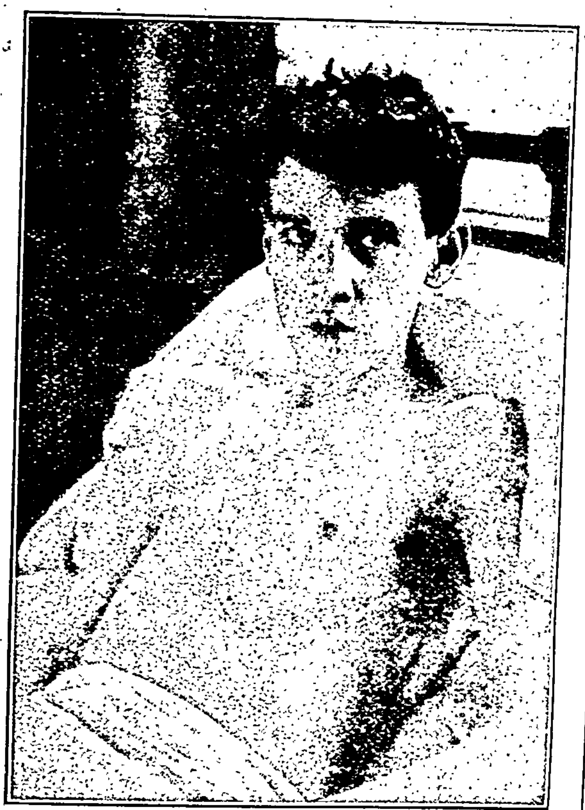
The temperature was slightly raised (99·2°) on the day following the operation and swung between that point and subnormal till May 9th, when it again remained normal or subnormal. The pulse was slightly quickened, running from 108 to 126 until the 9th, when it dropped to 92 to 100, the average pulse before operation having been 80 to 96. It is now 92 to 100. The rate of respiration was most altered, its highest rate being 60 on May 4th and averaging about 40 until the 10th when it dropped to an average 32 till the 17th. It is now 24. The highest pre-operative respiratory rate noted is 36 and the lowest 20. The higher rate recorded was apparently due to shallowness of respiration from pain in the side due to the wound.

The effect of the operation objectively and subjectively has been very satisfactory. The space previously occupied by the fifth and sixth ribs now consists of a soft unresisting cushion formed by the fourth, fifth, and sixth intercostal spaces and the sites of the removed ribs. The palpating hand finds little thoracic concussion, but the powerful throb of cardiac systole into the yielding covering of the heart. The other physical signs remain as before but the exaggeration of carotid and suprasternal pulsation is less marked and the blood pressure registered is from 120 to 130 and at times as low as 115. The apical presystolic rumble is not to be heard. The only palpable thrill is basic (aortic) and diastolic in time. The skin on the præcordia to the left of the sternum below the level of the fourth rib was decidedly diminished in sensibility, doubtless from severance of the fifth and sixth intercostal nerves, but is now recovering sensibility somewhat. The area thus robbed for a time of all sensation (tactile, painful, and temperature) measures about 2 by 4 inches. Finally, before operation the chest capacity as registered by Lowndes's spirometer was 60 cubic inches and on May 18th it was 63. The capacity of two other men, presumably normal, was 120 and

130 cubic inches respectively. Subjectively, the most gratifying result has been that the patient has had a greatly diminished experience of anginoid pain, and even when suffering it affirms that it is decidedly less severe than prior to the operation.

On May 12th Dr. James Mackenzie saw the case with me and asked the patient whether in his opinion the degree of relief he had experienced justified his having undergone the suffering of the operation. This question he emphatically and without hesitation answered in the affirmative. The nurse in charge of the ward during the night has also informed me that the quietude and uninterruptedness of the patient's sleep since the operation are in striking contrast to his broken rest before that event.

FIG. 3.



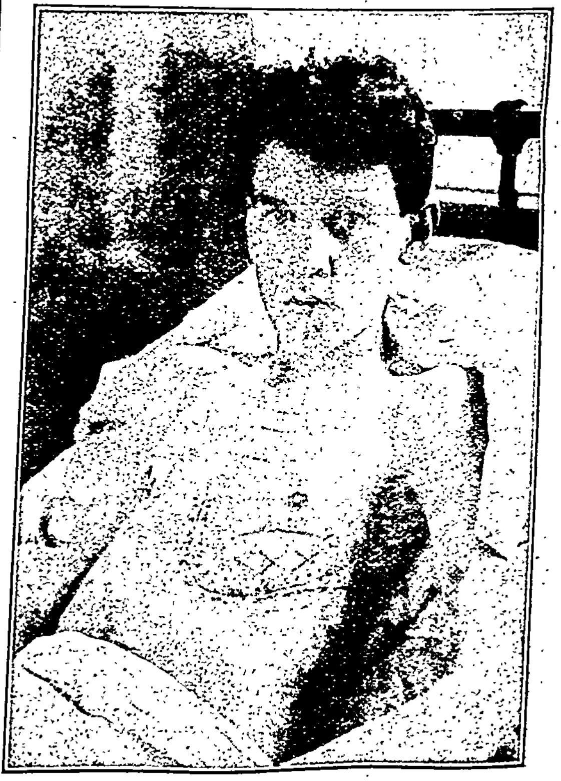
The operation wound healed.

The patient was dismissed from hospital in all respects more comfortable than before operation and perfectly satisfied with his progress on June 6th.[5] Before leaving he was provided with a poroplastic shield to protect the more exposed heart from accidental injury, in imitation of the costal bulging adopted by nature in the young for the same purpose. It transpired in the discussion on Brauer's cases[6] that the enlarged interspaces tended to shrink apparently without undoing the benefit of the operation. Whether this will also prove to be the case in untethered cor bovinum remains to be seen. If this occurs I can scarcely think the change will be beneficial. In the meantime, the perpendicular measurement of the gap in the present instance is seven centimetres.

The accompanying tracings exhibit the character of the cardio-vascular movements at different points and at different dates. (Figs. 5 to 10.)

Remarks.—The normal beat of what is usually assumed to be the "apex" of the heart—that is, the portion of the ventricular heart which comes in momentary contact with the thoracic parietes—occurs at an intercostal space. In the adult this is usually the fifth interspace; in the child frequently the fourth. But whatever the actual position of the beat its brunt is expended on a soft interspace. The finger placed on the rib above and below the pulsating space feels no shock. Under abnormal circumstances the beat may of course be obscured or imperceptible, either when the force of systole is diminished or when there is an abnormal interposition of lung, fat, new growth, or effusion between the heart and the palpating hand. When, however, the heart is increased in size and the force of systole is also in excess of what is normal to the individual, the cardiac apex thrusts, not against a yielding interspace, but against interspace and rib, one or more, according to the size of the systolic ventricle. The finger or hand placed over the heart then feels the concussion of the stroke both against rib or ribs and interspace or interspaces. Again, notwithstanding recent controversies as to the rôle of muscle and nerve in cardiac action, it is admitted that direct muscular stimulation of the eviscerated heart induces contraction, and that in the heart *in situ* nervous impulses have a powerful effect on the organ by way of inhibition, augmentation, and acceleration.

FIG. 4.



The crosses show the enlarged area of the apex beat and the markings show its situation.

Given therefore a large heart powerfully pulsating against hard and resistant structures, what more natural than that the striking and indirectly struck organ should, from time to time, develop a condition of excitation or erythism in excess of what is normal to it, and that such erythism should be associated with increased systolic pressure, augmented by mental causes due to subjective discomfort in various degree, from uneasiness to pain. Such pain, moreover, as has long been known, may find more or less widespread expression in the somatic sensory nerve territory issuing from the segments of the cord related to the organic nerves stimulated on the principles discussed by James Mackenzie[7] and Head.[8] These inconvenient consequences do not follow even the powerful systolic palpitation of a normal heart in a normal situation. It is reasonable to suppose, therefore, that providing the enlarged and powerfully pulsating heart with a proportionately large interspace void of osseous resistance might prove a means of sparing its energy. This was done and a local parietal anæsthesia incidentally produced in the case I have narrated with the ameliorative consequences related.

---

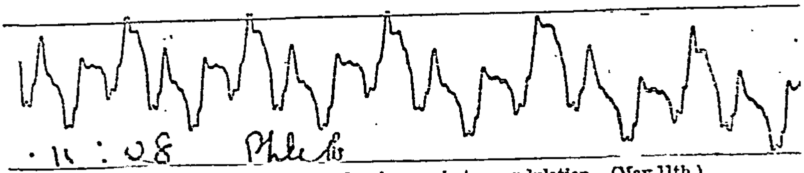
[5] Seen by me on June 25th he stated that he was able to "get about" quite well and that he had not experienced his present condition of thoracic comfort since childhood. He has also increased 5 pounds in weight since leaving hospital.

[6] Loc. cit.

[7] THE LANCET, Jan. 5th, 1895, p. 16.

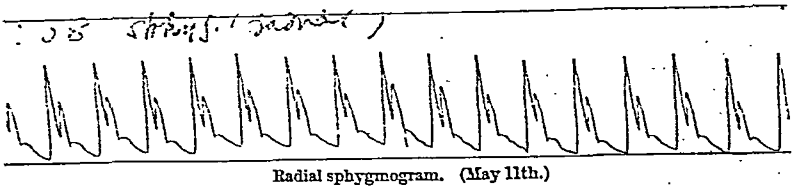
[8] Brain, vol. xvi.

FIG. 5.



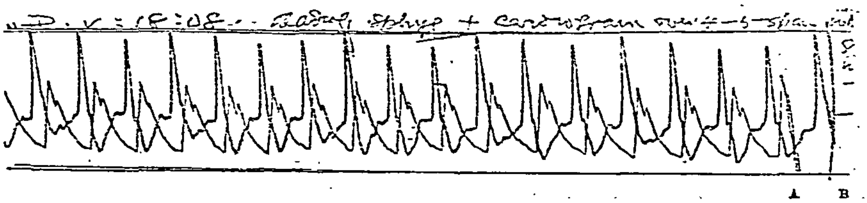
Cervical phlebo-arteriogram, showing respiratory undulation. (May 11th.)

FIG. 6.



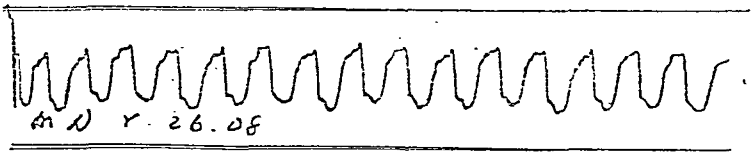
Radial sphygmogram. (May 11th.)

FIG. 7.



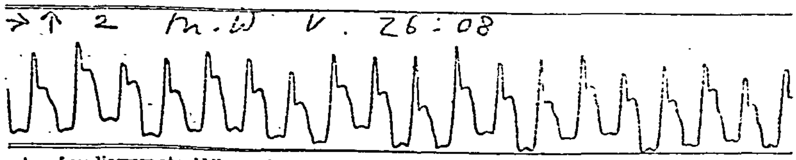
Cardiogram from sternal end of enlarged apex beat interlaced with the radial sphygmogram (on account of the narrowness of the stage). The arrests at A and B show the corresponding phases of movement. (May 18th.)

FIG. 8.



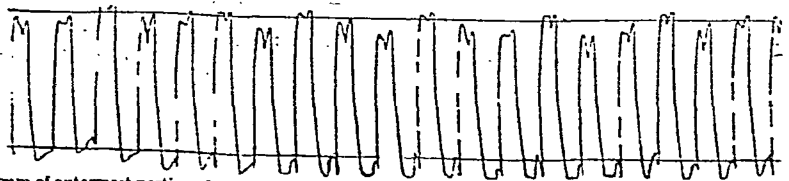
Cardiogram from sternal end of enlarged apex beat. (May 26th.)

FIG. 9.



Character of cardiogram at middle portion of enlarged apex beat. Shows respiratory undulation. (May 26th.)

FIG. 10.



Cardiogram of outermost portion of apex beat. Shows large excursions and also respiratory undulations. (May 26th.)

Although I have no desire to argue too widely from a single instance either as to the cause of some anginoid pains in some such cases or as to the value of thoracostomy as an alleviative and conservative measure, the results of the operation subjectively and objectively have been sufficiently gratifying to justify its repetition under similar circumstances. In describing this patient's painful symptoms I have used the term "anginoid," which is difficult to defend. He complains of retro-sternal pain. His pulse and heart quicken and his systolic blood pressure during the attack rises. On the subsidence of pain the pulse-rate falls and with this the systolic pressure falls likewise. The pain is relieved by nitrite of amyl. Under these circumstances the use of the term "angina" would be quite justifiable and it would doubtless be the correct term to use. Why, then, have I not used it? The pain certainly does not radiate far in this case, as it very frequently does in aortic cases, but this fact does not, as we know, invalidate the use of the term angina. I have noted before an abasement of ventricular systolic force during the attacks of angina, or at least interpreted the signs observed as those of abasement from the modification of the cardiac sounds.[9] That modification of sounds I have not observed in this case. The note of the bruit remains the same and becomes not less rough till the pain subsides. The attacks were, prior to operation, very frequent, so frequent that one was tempted to regard some of them as exaggerated by the neurotic disposition of the patient. But this is not justifiable, and on one occasion I roused his indignation by the inquiry as to whether he did not make the most of his sufferings. When we know that he faced so serious an operation after long consideration to gain relief this may be dismissed. The attacks, in truth, were not only like angina but were angina, and my use of the tentative term at any time is indefensible. My reason for continuing to use it after the operation was that the relief produced was much greater than I had anticipated, although not greater than I had hoped, and I hesitated to emphasise the alleviative value of the procedure by employing the more serious term. The fact of relief remains. The cause of relief is more difficult to explain.

When the patient was admitted in December, 1907, the notes of his blood pressure show a variation from 125 to 130 millimetres of mercury during quiescence to 160 when the attacks of angina were more frequent. At my visit on April 27th it registered 170 millimetres and he had at the moment no pain. By this time the operation had been decided upon, and it may have been that emotional causes on this occasion augmented the systolic pressure. The fact remains that since the operation his average systolic brachial blood pressure has been from 120 to 130 millimetres, which appears to be normal for the patient in an anerythetic condition. The operation, therefore, does not seem to have reduced his normal blood pressure, but to have greatly modified the tendency to an erythetic rise of it. This can only be from the removal of some physical as distinguished from emotional incentive to erythism, and that incentive we are surely justified in regarding as the osseous provocation to cardiac stimulation removed by thoracostomy.

We may, therefore, without any undue exercise of the imagination conclude that one cause, at least contributory, to attacks of angina in aortic valvular disease with hypertrophied heart is direct stimulation of the organ by systolic impact against costal resistance, and this may also be regarded as a cause of the premature failure of the hypertrophied heart so frequently observed in practice. It may, of course, be argued that, if this were so, both angina and premature failure would be even more constantly observed than they are in these circumstances. Before this objection can be reasonably met larger experience of the effects of this operation is needed, and as a contribution towards the formation of opinion on the subject I offer this case, which, so far as it goes, certainly supports the conclusion I have indicated, as in any case rational, to avoid a premature and unscientific positivism.

It may also be asked how such a central theory of the production of this type of angina agrees with the accepted notions of peripheral vaso-motor constriction as an incentive to the attacks. While it is not my purpose on the present occasion to discuss this and many other interesting questions on the nature of angina which are raised by the facts I have related, it may be pointed out that the reduction of systolic pressure by the nitrites is also associated with acceleration of the heart and reduction of the cardiac output for each systole, although without diminution of it as a whole. Consequently it is legitimate to urge that a succession of small systoles has not the same concussion influence on the thorax which is induced by the slower and more powerful stroke of the enlarged heart in an erythetic condition, and that the alleviative effect of the nitrites rather supports than opposes my suggested explanation.

In conclusion, I have to thank my house physician, Dr. Woodroffe, for notes of the case, and Mr. Hamilton, the house surgeon, for his care of the patient after operation.

Upper Berkeley-street, W.

---

[9] Edinburgh Hospital Reports, vol. iii., p. 254.

MEDICAL MEN CALLED TO THE BAR.—The following medical men have their names on the current call list for Trinity Term: by the Inner Temple, William Henry Whitehouse, M.D. Durh., of Birmingham; and by Lincoln's Inn, Percy John Probyn, M.B., B.S. Lond., Major, R.A.M.C.

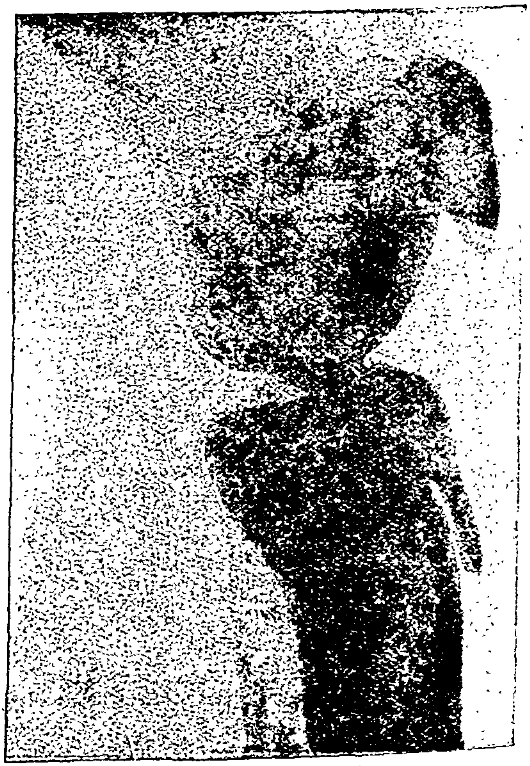
CONCERNING SOME RARE BUT IMPORTANT SURGICAL INJURIES BROUGHT ON BY VIOLENT EXERCISE.

BY PATRIK HAGLUND, M.D.,
DOCENT AT THE KAROLINSKA INSTITUTE, STOCKHOLM; NAVAL SURGEON OF THE SECOND DEGREE.

(*Translated by* OTTO L. HOLST, *M.R.C.S. Eng., L.R.C.P. Lond.*)

THE lesions which form the subject of this paper were exceedingly obscure as to their nature until the introduction of the Roentgen rays made the diagnosis easy. They are most often contracted at the gymnasium, particularly by those who excel, but they occur also as the result of other forms of severe bodily exercises. The most common, and therefore the most important from a practical point of view, is that lesion of the tuberosities of the tibiæ which has received the name of "Schlatter's disease." There is no doubt that all come across cases of it amongst athletic children, most often boys, who have presented a tender spot just where the ligamentum patellæ is attached to the tibial tuberosity, a condition which, although it does not ordinarily necessitate absolute rest in bed, yet is capable of causing much inconvenience and pain and of preventing the sufferer from taking part in games of any kind. Every movement which puts a strain on the ligamentum patellæ gives rise to acute pain. This very unpleasant state of affairs may last a long while, rendering the child more or less an invalid for several months. Strangely enough, it is seldom that the condition can be associated with a specific instance of a particular accident or strain.

FIG. 1.

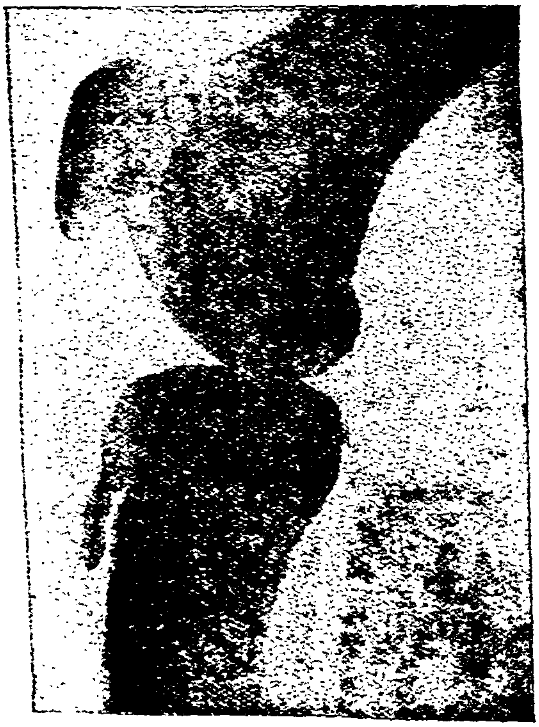


It is only comparatively lately that the disease has been thoroughly understood, thanks to the observations and studies made of it by Schlatter in Germany and Osgood in America. Before that time great uncertainty existed in the minds of surgeons as to its nature, many having suspected tuberculous mischief in the tibia owing to the presence of symptoms pointing to inflammation. Although sometimes operations have been performed, not even then has it been possible to arrive at a correct diagnosis. It is the Roentgen rays that have disclosed to us its true pathology. We knew that the lesion must be caused by something which affected the attachment of the ligamentum patellæ to the tuberosity of the tibia, but as no similar condition was found elsewhere in the human body where tendons, attached to bones, were subjected to strains, one was forced to the conclusion that special circumstances must obtain in this particular position to account for it.

It is well known that the long bones develop from three ossification centres—i.e., one in the shaft and one in each epiphysis. If we examine the upper end of the tibia, we find a very peculiar shape of the ossification centre. Fig. 1 shows a Roentgen picture in profile of the upper end of the tibia in a boy aged 13 years. As cartilage does not prevent the passage of the rays the light interspace between the tibia proper and the tuberosity shows where ossification has not yet taken place. We see how the ossification centre sends down a long projection in front of the upper end of the tibia, which projection, owing to its characteristic appearance, has received the name of "the trunk-like projection of the superior tibial epiphysis." In reality it is not at all trunk-shaped, but broad laterally and flattened antero-posteriorly. This process reaches down to where the ligamentum patellæ is attached and the "point of attachment" is completed by the merging together or union of the bone and the projection which usually takes place at the eighteenth or nineteenth year. Before the twelfth year no trunk-like projection is to be found, but it is about this time that it begins to ossify. As any exertion of the extensors of the knee undoubtedly puts a certain amount of strain on the apex of this projection it is easy to understand how injuries might happen to it. And the lesion with which we are now concerned is just caused by any extra strain brought to bear on this delicate anatomical mechanism.

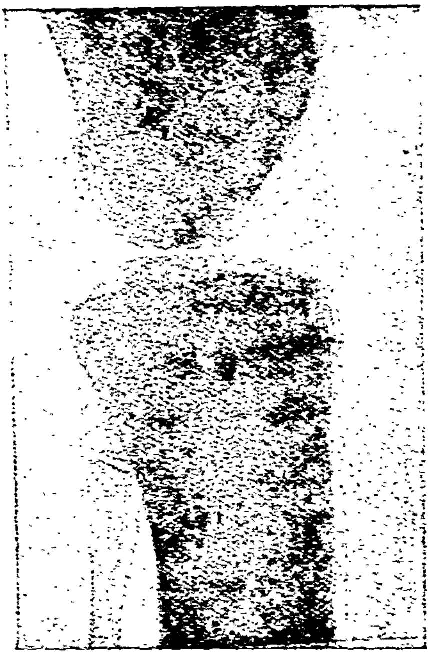
The traumatic lesion may vary a good deal in its pathological aspect, but it is well to include every form under the generic term of "Schlatter's disease." One may find a bending outward of the trunk-like projection, a partial separation of it from the diaphysis—i.e., fracture in the epiphyseal line, or in still more severe cases a complete separation with the fragments more or less dislocated. In most of the cases a fracture of the projection is found. Figs. 2, 3, 4, and 5 show excellent instances of this condition. Clinically all these varieties resemble one another. They occur always between the twelfth and the nineteenth year; they happen to strong energetic children fond of games; they are more common in boys than in girls and are more often met with in the right leg, as this is the leg which has to bear the brunt in any exertion.

FIG. 2.



It is a curious fact, as has been already remarked, that the patient cannot, as a rule, say when the accident happened.

FIG. 3.



The trouble does not generally come on suddenly, the patient complains that his knee has begun to pain him and that he has discovered a bump there. If one inquires carefully into the history of such a case one almost always elicits the fact that the first time pain was felt was after some severe exertion—e.g., a long or a high jump, &c. Ever since the pain has always been present on any severe exertion. The trouble has gradually become more and more pronounced, especially if the patient has continued to take part in games and sports. At last even ordinary walking brings on pain; the patient himself and his relations grow anxious and he is taken to see a medical man. All these symptoms, which seem to be against the theory of a traumatic injury, are now satisfactorily explained by the Roentgen pictures. That the injury is productive of so little discomfort at the time depends no doubt upon the fact that the fracture of the trunk-like projection takes place without involving the perichondrium which covers it. And as cartilage just as little as bone is provided with nerves of sensation, it is easy to understand how such a lesion can occur without any pain at all. Meanwhile a serious weakness has been caused at the point of insertion of the ligamentum patellæ and each contraction of the extensors of the knee aggravates the condition. In this way an irritation is constantly operating which leads to an increase of the inflammatory symptoms. The patient becomes more and more an invalid. The lesion is, though not serious, very troublesome. It usually lasts six months, but two years may elapse before the patient gets a useful limb again. Much depends on the amount of anatomical disturbance and on how far the patient is careful not to irritate the injured cartilage.

As for the treatment, the first thing to be done is to have a Roentgen picture taken. If the injury is shown to be a severe one the patient should be put to bed with or without a splint. In milder cases it is sufficient to warn the patient against any violent exercise likely to irritate the parts; in these latter cases it is not necessary to forbid walking on level the coats, the lumen of some veins being occupied by pus cells; the vas deferens also presents a well-marked cellular infiltration of its mucous membrane and various muscular coats.

Ætiology.—Among the old Ceylon practitioners the disease was considered by some to be of filarial origin; others considered it to be a malarial affection. I have examined bacteriologically five cases: in all a diplo-streptococcus was present in the pus. In two cases in which I have examined bacteriologically the blood taken from a vein, the same strain of streptococcus was found in the blood. I give here a brief description of the organism.

Microscopical characters.—The coccus is arranged in pairs, or short or long chains; when arranged in pairs its shape is somewhat gonococcus-like. It is gram-positive.

Cultural characters.—Broth: In some cases general turbidity, in others a flocculent sediment is present, while the upper part of the bouillon remains clear. The same strain may at times produce general turbidity, at other times may give rise to a flocculent sediment. Peptone-water: Same growth as in broth, only less abundant. Agar: The growth may be very delicate, fairly abundant, or even luxuriant; when very abundant the colonies coalesce into a whitish creamy mass. Gelatin: Same characters as in agar, only more delicate. Milk: The milk is rendered acid and clotted. Sugar media: Glucose broth, acid; lactose broth, acid; maltose broth, no acid; saccharose, no acidity; saccharine, no acidity; mannite, no acidity; salicin, no acidity; dextrine, no acidity; Mackonkey agar, no growth. Serum media: nothing characteristic. Agglutination: using the cultures which show a diffuse turbidity it was easy to show in my cases that this streptococcus was agglutinated up to a dilution of 1 in 50, and occasionally 1 in 100, by the blood not only of the patient from whom the strain was isolated but also from the blood of other patients affected by the disease, provided the blood was not collected before the third or fourth day of the illness. This strain of streptococcus is not agglutinated by the serum of patients suffering from other streptococcal diseases, such as erysipelas.

Conclusions.—1. There is endemic in Ceylon, and probably in other parts of the tropics, a peculiar affection of the cord which it seems to me has sufficiently characteristic symptoms to be ranked as a separate disease. This affection might be named "endemic funiculitis." 2. A diplo-streptococcus is constantly found in the pus. Further investigation is needed to decide whether this diplo-streptococcus is the primary cause of the disease or, as I am inclined to believe, is merely a secondary agent playing a rôle only in the suppurative stage of the malady.

Colombo, Ceylon.

PHENOMENAL ABUNDANCE OF PARASITES IN A FATAL CASE OF PERNICIOUS MALARIA.

BY J. CROPPER, M.A., M.D. CANTAB.

(*With Coloured Plate.*)

NOTES of the case from which the figures in the coloured plate are taken were read before the Society of Tropical Medicine and Hygiene, in London on Feb. 21st last. The facts are briefly as follows:—

A Samaritan, aged about 55 years, was admitted to the C.M.S. Hospital at Nablus, Palestine, on Sept. 15th, 1907, for malarial fever contracted in the Jordan Valley, whence he had just come. On admission parasites were not more numerous than I had seen them previously in other cases—viz., two or three in a field and of the subtertian type; crescents were very few. The fever followed a tertian course and when high (103° F.), on the evening of admission sporulating forms were easily found. At 9 A.M. on the next day the temperature was down and most of the parasites were of the unpigmented ring form. Early on the second day after admission the patient was seized with algide symptoms, the temperature in the mouth being below 95°, which was raised to 97° with difficulty by hot bottles, &c. In spite of treatment, however, he never rallied but succumbed at midnight, having previously had diarrhœa; there were no cerebral symptoms and he was able to answer his name to within two hours of his death. No post-mortem examination was allowed. Most of the slides were taken from the ear two hours before he died and were principally stained by Giemsa's method.

The chief points worthy of note in the coloured plate are the following:—

FIG. 1.—*Clumping of red cells* containing pre-segmenting and more rarely sporulating parasites in masses of from three to 21, which so far as I know has not been previously observed in the peripheral blood, though it is commonly seen in the brain and other organs affected in pernicious attacks, after death. I can find no reference to this occurrence in Marchiafava and Bignami's account of pernicious malaria. I would conjecture that such masses must occur in the internal organs in intense infections, but that as a rule they are not seen, being eliminated or filtered out from the blood in the spleen or the liver, thus giving rise not only to enlarged spleen but also to bilious remittent attacks and malarial hepatitis. Where, however, other organs such as the brain, the kidney, the pancreas, or the intestinal walls are affected, cerebral symptoms, acute hæmorrhagic and pancreatitis, &c., develop, not to mention a gastric form which is often overlooked.

As quoted by Dr. G. C. Low at the meeting referred to above, it occasionally, but extremely rarely, happens that the quartan parasite undergoes enormous increase in numbers and thus may prove fatal.

In Fig. 1 can also be seen a large mononuclear leucocyte containing in its protoplasm a red cell infected by a parasite which has not yet reached the sporulating stage: as noted by Marchiafava and Bignami,[1] this only occurs with the subtertian and never in the case of the tertian or quartan parasite.

FIG. 2.—*Unpigmented rings in extraordinary numbers,* infecting from 40 to 50 per cent. of the red cells; of 500 counted at random 248 were infected and in some cases a simple red cell contained even six or seven rings.

FIG. 3.—*A polymorphonuclear cell containing spores and melanin.* This only occurs in intense infections; usually the large mononuclears are alone affected thus.

FIG. 4.—*A large mononuclear leucocyte containing three sporulating parasites.* This is very rarely seen even in pernicious attacks.

FIG. 5.—*A pigmented leucocyte containing 25 blocks of pigment or melanin.* Since each of these was the centre of a sporulating parasite, at a reasonable estimate at least 200 to 250 spores had been ingested by this one cell which has enormously hypertrophied as a result of such overfeeding. The greatest number of spores in any one sporulating body was 18 in this case, or on an average 8 to 12.

FIG. 6.—*A red cell containing three sporulating forms.* This has only once been seen in this series, though I have several times seen two. I may add that one could find no trace of the endocorpuscular conjugation described by some authors, and it would seem likely that where a red cell is infected by several rings, each parasite follows out its life-history independently of the others, even when one is a schizont or segmenting form and the other a gametocyte.

FIG. 7.—I have also drawn a series of immature crescents, differentiating the male and female forms as far as possible. The number of these increased enormously on the last day, and it would appear that on the onset of algide symptoms with the temperature under 95° in the mouth and the extremities icy cold to the touch, some sort of migration of the gametes took place from the bone marrow. In any case the occurrence of these immature forms is very rarely seen except in the bone marrow or in the blood of internal organs. The young *male* crescents are in some cases almost or quite circular and often surrounded by a zone of hæmoglobin; the chromatin may occupy any position in the cell and may even exist as a band across the "equator," as in No. 1 in the second row. The pigment is in all cases discrete and never gathered into a block, as occurs early in the segmenting forms. This is also true of the female forms which are more pointed: practically none of them have taken on the crescentic shape which is such a characteristic feature later. Figures of twin crescents and a crescent and sporulating

form in the same cell, the so-called gameto-schizont (of Schaudinn) are also given.[2]

---

[1] New Sydenham Society, p. 181.

The general condition of the blood deserves attention. There was evidently a considerable leucocytosis, though I regret that no count of white cells was made in the fresh blood. Nucleated red cells were fairly common. The differential leucocyte count is as follows: neutrophiles, 40 per cent.; large mononuclear, 21 per cent.; large lymphocytes, 26 per cent.; small lymphocytes, 12 per cent.; eosinophiles, 0·5 per cent.; and mast cells, 0·2 per cent.

Though cases of blackwater fever have from time to time been recorded from Jerusalem and elsewhere in Palestine; this is the first and only true case of pernicious malaria that I have met with amongst nearly 500 cases diagnosed microscopically, quite 30 per cent. of which were subtertian infections, in two and a half years, which strengthens my belief that a comparatively high average daily temperature is necessary for the development of pernicious attacks. Tropical *heat is rarely experienced* for long in any part of Palestine with the exception of the Jordan Valley, which is sparsely populated and chiefly by bedouin, who must be at any rate partially immune.

Chepstow.

A CONSIDERATION OF THE STATE OF THE AUTONOMIC NERVOUS SYSTEM IN ACUTE SURGICAL CONDITIONS.*

By ALBERT J. WALTON, F.R.C.S. Eng., L.R.C.P. Lond., M.B., B.S., B.Sc. Lond.,
SURGICAL REGISTRAR, LONDON HOSPITAL.

I have selected the present subject for debate to-night firstly, because it seems to me that, by giving attention to these conditions, one may best hope to decrease the present high mortality existing in cases of acute surgical lesions necessitating immediate operation; and secondly, because it is one which has excited much attention abroad but to which but little heed has been given in this country, and, in the majority of cases, the old methods of dealing with these conditions, which in light of recent knowledge would appear to be not only useless but positively harmful, are still adhered to. Two main conditions will have to be considered: (1) alterations in the vaso-motor centres with subsequent vascular changes; and (2) changes in the local nervous system of the intestines after abdominal operations.

1. Alterations in the Vaso-motor Centres.

In this category must be grouped the conditions of shock and collapse. It has always been taught that these two conditions are essentially different, but it must be remembered that although their causes may be separate, not only are they in the majority of cases associated, but the active factor—viz., a lowered blood pressure—is present in both, and may call for similar lines of treatment. This being the case, it will perhaps be best to commence with a definition of the two conditions. Those given by Lockhart Mummery[1] are as follows: "Shock is a condition resulting from a fall in general blood pressure, due to exhaustion of the vaso-motor centres." "Collapse is a condition resulting from a fall in general blood pressure, due to inhibition of the vaso-motor centres or a loss of the circulating fluids." Thus it may be said that in both cases the condition is due to a lowered blood pressure, caused in one case by a vaso-motor paralysis, and in the other by a loss of fluid. Shock is the condition with which we are now mainly concerned, but in most surgical conditions there is associated loss of blood and fluid exudates, and hence the second factor is but rarely absent.

The blood pressure in man and in animals is maintained in health by two factors: firstly, the work done by the heart; and, secondly, the size of the peripheral vessels. The first factor may be shown experimentally by stimulating the peripheral end of the vago-sympathetic nerve in the dog; the heart-beats become slower and may soon stop, the blood pressure at the same time falling. In those animals in whom the vagus and sympathetic trunks are separate stimulation of the peripheral end of the sympathetic immediately below the inferior cervical ganglion causes augmentation of the heart with a rise of pressure, whilst stimulation of the peripheral end of the vagus causes slowing of the heart with a fall of pressure. Tracings showing this may be found in any text-book on physiology.

The effects of the second factor are shown by the following experiments: That alterations may be caused by a change in the calibre of the vessels is shown by the fact that if a tame rabbit be suspended there is a rapid fall of blood pressure, so that the animal may die. If a wild rabbit or dog be used instead this fall does not take place, but if chloral hydrate be given previously, so as to destroy the controlling influence of the vaso-motor centres, these animals react in a similar manner to the tame rabbit (Leonard Hill). These changes are due to the dilatation of the splanchnic vessels, which is shown by the fact that they are readily prevented by previously applying a tight abdominal binder. The calibre of these vessels is in health controlled by vaso-motor nerves. This may be shown by stimulating the sympathetic nerve in the rabbit; this is followed by a marked constriction of the vessels of the ear on the same side. If the nerve be paralysed the vessels undergo marked dilatation. Stimulation of the peripheral end of a sensory nerve usually causes vaso-constriction of the part supplied. Stimulation of the splanchnics causes marked constriction of the vessels of the splanchnic area, with a rise of general blood pressure. The action of these nerves is controlled by a centre in the bulb. If this be stimulated directly by an electrical current there is an immediate rise of blood pressure. A similar effect follows the application of digitalis, *strophanthus*, alcohol, or strychnine, whilst opium or chloral causes a marked fall, with dilatation of the peripheral vessels.

Thus the size of the peripheral stream is in health dependent upon the action of the centre, and alterations in the blood pressure are chiefly caused by variations in the size of the vessels in the splanchnic area. These variations are brought about by the influence of afferent impulses to the centre, as may be shown thus: Stimulation of the central end of the depressor nerve in the rabbit causes a marked fall in the blood pressure, and this effect occurs after division of both vagi, and, hence is not due to alteration in the rate or force of the heart beat. Stimulation of the central end of the sensory nerves is followed by a marked rise in blood pressure, but if the stimulation be continued the centres become exhausted and the pressure markedly falls. Now in a condition of shock this latter state is present, the vaso-motor centres have become exhausted by multiple afferent impulses, the vessels in the splanchnic area are widely dilated, *and the peripheral blood pressure is low.*

Crile,[2] Sherrington,[3] Cobbett and Roy, working on the condition of shock in animals, have shown that there is a constant relationship between the fall of blood pressure and the symptoms of shock present, and *that the fall* of peripheral blood pressure is accompanied by a rise of pressure in the portal area, the blood all accumulating in this latter position.

The experiments of Crile[2] were carried out as follows. The animals used were dogs. They were anæsthetised and mercurial manometers were inserted into different vessels in the circulatory path. They were then subjected to various operations and the condition of the pressure and shock noted. After death a necropsy was held and the condition, more especially with reference to the amount of blood in the different vessels, was investigated. When subjected to severe and repeated trauma it was found that there was a primary rise in the blood pressure, soon followed by a marked fall, and when this fall reached a certain level the symptoms of shock became evident; if the trauma were continued the shock increased, the fall of pressure became more marked until it reached the zero line, and the animal died. These symptoms were not due to any cardiac influence, for they were produced after the cardiac inhibitory apparatus had been cut out by section of the vagi, and in all these cases it is not only found that the heart works as rapidly and as forcibly as is usual, but that its action is augmented in a vain attempt to maintain the pressure.

In all cases where death was produced there was a *marked* increase in the amount of blood in the splanchnic area, the fall of pressure therefore being caused by a dilatation of these vessels. In certain operations, which will be further considered presently, where the *trauma was applied* to the intestines, the vessels in the splanchnic area were seen to dilate *pari passu* with the fall of blood pressure, and with the increase of shock.

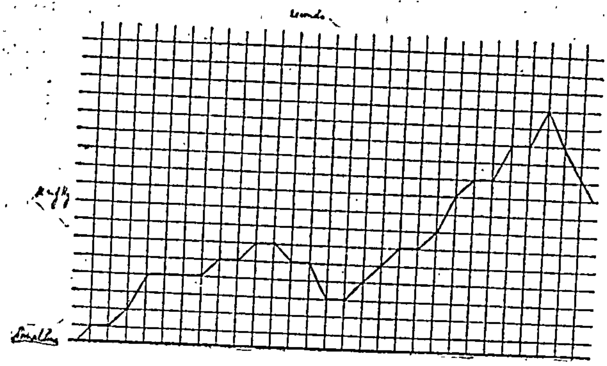
---

[2] The male crescents are seen in the top line, the last five of the lower line being female forms.

* A paper read before the London Hospital Medical Society. (The superior figures refer to the bibliography at the end of the article.)

In many cases the early part of the trauma, such as the primary incision or dilatation of the sphincters, caused a preliminary rise in the blood pressure, which was later followed by a marked and steady fall (see Fig. 1). This corresponds exactly with the changes mentioned above as following stimulation of the central end of a peripheral nerve.

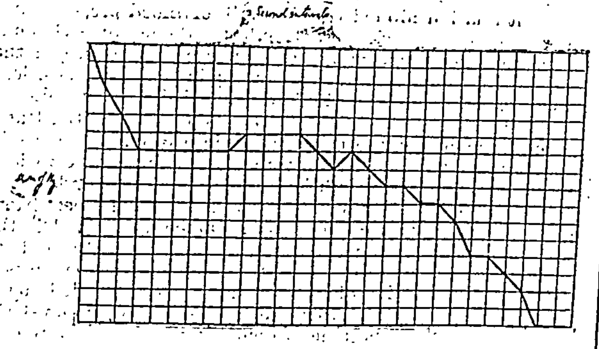
FIG. 1.



The preliminary rise of pressure with cutting and crushing the skin. [Compiled from 22 experiments (Crile, "Surgical Shock").]

In all these cases the alterations in blood pressure were due to changes in the conditions of the vessels, and that these changes were caused by impulses conveyed to the vaso-motor centres was shown by the fact that: The amount of shock was directly proportional to the amount of injury to the nerves of the part, and the more specialised and abundant the nerve-supply of a part the more did it contribute to the production of shock when subjected to injury. Thus muscles, joints, and bones without periosteum may be injured with but little alteration to the blood pressure. If the periosteum be present the fall of pressure on division will still be present. If a peripheral part, such as the paw of a dog, were cut there was but little fall of pressure; when crushed the fall in pressure and consequent shock were much more marked. When nerve trunks were injured there was a primary rise followed by a marked fall. If previous to injury the main afferent paths were cocainised, the resulting fall of blood pressure and shock were negligible however severe the trauma. In this connexion it was found that the amount of shock depended upon the part injured, and owing to the importance this bears upon general surgery it must be considered more fully. Incisions in the skin cause a primary rise, as mentioned above, followed by a fall, but in certain areas where the nerve supply is great the fall may be immediate. The most important of these are the skin of the abdomen and scrotum. Injuries to the abdominal contents cause a marked fall in the blood pressure; here there is a free nerve supply of the branches of the sympathetic, and much smaller stimuli are appreciated, so that if an animal's abdomen be merely opened and the intestines exposed there is soon a marked fall of peripheral blood pressure, a rise of pressure with dilatation of the vessels in the splanchnic area and symptoms of shock (Fig. 2). The fall in pressure could be checked by the application of warm saline solution to the peritoneal cavity. If previous to the trauma the superior mesenteric artery were clamped, the fall in pressure either took very much longer to occur or did not occur at all. Operations upon the brain were associated with a very marked fall of pressure. A similar marked fall, starting early and associated with no preliminary rise, accompanied operations upon the testicle. This could be entirely prevented by a previous injection of cocaine into the tunica vaginalis or cord.

FIG. 2.



The fall of pressure on exposing and manipulating the intestines. Compiled from 15 experiments (Crile, "Surgical Shock").

The shock produced in these experiments may therefore be regarded as being due to multiple afferent impulses passing along the nerve trunks, and it is conceivable that these impulses might cause the fall of blood pressure by one of two methods—either they might stimulate a centre so that impulses would be passed down vaso-dilator nerves, leading to an active dilatation of the splanchnic area, or the vaso-constrictor centre, which is continuously acting, might have become paralysed, and hence the vessels dilate atonically. That this latter is the case is shown by two further experiments by Crile.

When profound shock is established the centres cannot be stimulated, as they can in health, by the administration of brandy or strychnine. When the vaso-motor centres are cut out by injecting a 2 per cent. solution of cocaine into the medulla profound shock was produced, the blood pressure fell from 115 millimetres of mercury to 50 millimetres, respiration ceased and had to be continued artificially. Electrical stimulation of the sciatic nerve and injection of strychnine caused no rise in pressure. A similar result was caused by destroying the centres by pithing. In addition to these changes in pressure due to alterations in the size of the vessels in the splanchnic area there are in animals alterations in the blood itself which probably greatly help to bring about this fall of pressure and point to a line of treatment which, as will be shown later, has proved to be most efficacious.

The experiments of Sherrington and Copeman[3] have shown that operations, especially those involving exposure of the peritoneum, upon healthy animals are followed by a loss of fluid from the blood and a rise in the specific gravity. In one experiment this rose from 1·054 to 1·062 in 15 minutes. This condition has been found to last for several days and then slowly passes off. In cases of burns or other lesions causing a large destruction of the skin it is well marked and probably occurs by evaporation. Since by this means the total amount of blood is decreased the pressure will obviously fall, and the increased viscosity with subsequent rise in friction will tend to the formation of thrombi, and Watson Cheyne has shown that in such cases coagulation may occur in the pulmonary vessels. Although the amount of blood is decreased, absorption of fluid in shock is greatly delayed (van Engleman), which has been thought to be due to an arrest of metabolic processes.

Shock, then, in animals may be defined as a condition of decrease in blood pressure due to vaso-motor dilatation of the splanchnic areas, which dilatation is caused by multiple impulses passing along the afferent nerve paths; these impulses at first cause an increased action of the centre, which is soon followed by paralysis. The condition is assisted by a decrease in the total amount of the fluid constituents of the blood. In man the conditions are much more difficult to determine; operations cannot be carried out in the same experimental way, hence the amount of shock cannot be regulated and the required factors cannot in all cases be introduced.

The blood pressure cannot, of course, be determined and accurately recorded in the manner undertaken with animals, and hence some other method has to be utilised. Many instruments have been devised for this purpose, but it may at once be said that the Riva-Rocci has been proved clinically to be quite satisfactory. The instrument is now well known and consists of a rubber bag, which is strapped round the limb by a leather band; from it passes a thick rubber tube leading to a mercurial manometer. The bag can be pumped up by a rubber ball with valves. When it is partially blown up the mercury is seen to oscillate with the pulse-beats. Either the systolic or diastolic pressure may be obtained by its use. The simplest to record and the less liable to error is the former; to obtain it the pressure in the bag is increased until the oscillations just cease; the pressure is then lowered until the mercury just begins to oscillate again; the mean of these two readings of the manometer is taken and corresponds to the systolic pressure. The diastolic pressure corresponds to the point at which the oscillations are at their greatest. The mean blood pressure is that which is required for a most accurate understanding of the patient's condition, and it can be deduced from the above. For clinical purposes, however, the systolic pressure is sufficient. In taking any readings with it the patient should be kept horizontal to avoid any alterations in pressure due to change of position. This method is very simple, and after a short trial accurate readings may be taken by an intelligent nurse. The readings of this instrument have been carefully compared—first, with the readings of manometers in the vessels of animals (Lockhart Mummery)[1]; and, secondly, in the dead, on limbs artificially injected with a known pressure—and the margin of error has been found to be very small.

A large number of experiments have now been made in man with this instrument, and it has been found that in health there is a slight change in pressure when the position is altered. If the reading be taken from the arm there is a slight fall owing to the action of gravity when the patient is placed upright. This is very slight owing to compensation by the vaso-motor system. In disease this is markedly increased, as is well shown clinically by the tendency to syncope when a patient first assumes the erect posture after an exhausting illness. In many diseases, more especially those in which there is considerable irritation of areas well supplied with nerve terminals and those associated with a loss of fluid, there is nearly always a marked fall. An example which more immediately concerns us here is acute general peritonitis, where there is a steady fall before operation is commenced. That the pressure is markedly low in Addison's disease has been known for long and will demand our further attention when the treatment of shock is considered.

The condition of the blood pressure has now been carefully investigated in many operations in which shock has been produced. Cushing and others have recorded many cases where the above instrument was used, and it may be stated that in man the blood pressure has been found to react in these cases in a manner similar to that of animals subjected to experiment. Thus it is seen that, as in animals, the amount of shock and the fall in pressure are proportional to the amount of nerve injury. Lockhart Mummery[1] records a case of excision of the breast where there was much traction upon the brachial plexus; in this case the pressure fell from 135 to 60 millimetres of mercury. In all cases of operation upon acute abdominal conditions the fall is very marked, and, as mentioned above, in these cases the condition itself, apart from operation, causes a considerable fall, hence it is that these cases form so large a percentage of the deaths that occur in any surgical ward. In accidents associated with much laceration of the soft tissues the shock is considerable, and they correspond with the cases of experimental crushing of a limb in animals recorded by Crile. In many cases, as in animals, the primary incision or early stimulation of an afferent nerve trunk is accompanied by a rise in pressure; as the stimulation is continued the pressure begins to fall.

The course of events may then be looked upon as a primary stimulation of the centres, with vaso-motor contraction and consequent rise of pressure. The centres now become over-stimulated and are exhausted, the vessels dilate and the pressure falls. An attempt is made to maintain it by an increased rate of the heart beat, and the pulse is found to be rapid. In time the dilatation is such that the pressure cannot be maintained by the heart alone and steadily falls until either the centres recover or the patient dies.

Such, then, is a brief outline of the methods which have led to the present state of our knowledge of shock in man, and it may now be accepted that the state is one of exhaustion of the vaso-motor centres, which state is brought about by severe afferent impulses, and which manifests its symptoms by a fall of blood pressure, with ultimate loss of nutrition to, and function of, the vital centres in the brain and cord. In any severe operation in man there are other factors, however, apart from the mere trauma, which tend to keep up or produce the condition, and these will now have to be considered.

The length of the operation.—As long as the operation continues, the centres will be getting more exhausted and the condition of shock will be increasing. The clinical recognition of this fact is well seen in cases of intussusception in children, where it is well known that the hopes of success depend, to a very large measure, upon the rapidity with which the operation can be completed. In a large number of cases, however, the introduction of asepsis and anæsthetics has tended to abolish the old methods of rapidity, and operations were undertaken which often lasted for some hours. Of late years the importance of this fact has been recognised, with the result that operations are more rapidly completed, quicker methods having, with an advance of knowledge, been introduced. The length of time occupied by the operation is of increasing importance where the condition of the patient is poor. Elderly people, those who have previously been ill-fed and subjected to hardships and those who have undergone a long and trying illness, will fail to maintain their blood pressure even for a short time.

In acute abdominal conditions the centres are being exhausted before the operation is commenced, and thus the length of time that the surgeon has at his disposal during the course of the operation will decrease *pari passu* with the length of time the condition has existed previously, so that in these states the prognosis will almost wholly depend upon the time the patient has been affected before advice is sought. In children this factor is even more important, for in them the different stages are more rapidly passed through, and the stage of shock is sooner reached. In a similar manner the amount of trauma will influence the subsequent fall, and delicate tissues such as the intestines should be exposed and manipulated as little as possible during the course of an operation.

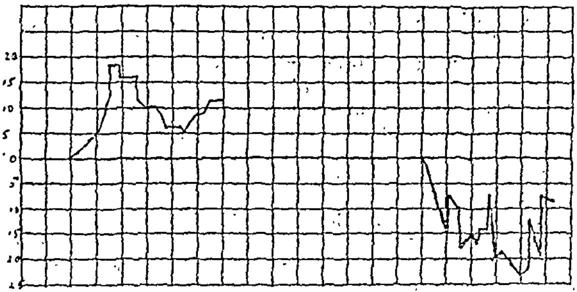
Anæsthetics.—The action of anæsthetics in regard to shock has to be considered from two points of view. Firstly, by producing unconsciousness the effects of the afferent impulses are markedly decreased. Not only are the higher centres of consciousness unable to appreciate the trauma, but the lower reflex centres are not so markedly affected, and the condition of syncope, which would increase the shock, is decreased or absent. Hence, with all anæsthetics the shock tends to be less than without them. On the other hand, they may themselves be toxic in their action on these centres, their absorption tending to an early exhaustion of them. The different anæsthetics vary greatly in these respects.

Ether.—With this drug it is found that there is a preliminary rise in the pressure which is maintained throughout the whole course of the operation, and any fall which occurs is due to the operation alone (Cook, Briggs, Blauel, Mummery). Hewitt[5] describes two forms of surgical shock, one of which, the respiratory, occurs early in the course of anæsthesia, and is more marked with those having some respiratory obstruction; hence, presumably, it would be more marked with ether than with chloroform anæsthesia. This form of shock, however, occurs only during the course of the anæsthetic, and is a totally different condition from that which we are considering now; it certainly causes no lowering of the blood pressure. The absence of shock is not in these cases due to any stimulant effect of the drug, for, as has been pointed out, when shock is present the centres absolutely fail to react to any form of stimulation; in fact, stimulants only further exhaust the centres and aggravate the condition.

Chloroform.—This, on the other hand, is accompanied by a steady fall of blood pressure throughout the whole course of its administration (Hewitt,[5] Blauel, Crile[7]). Hewitt, speaking on this point, says that all physiological blood tracings show a steady fall with chloroform and that shock (his second variety or circulatory shock) occurs late, when the anæsthesia is deep; of his series of 71 cases, 59 occurred when chloroform or a chloroform mixture was being administered, and he states that "as to anæsthetics under which circulatory shock is most common there is no doubt that chloroform is, *par excellence*, the agent which specially predisposes to this condition, owing to its power of reducing blood pressure." The different effects of the two anæsthetics is well shown by Blauel's chart (Fig. 3), calculated from 25 cases of ether and 18 of chloroform, all in cases over 20 years of age and with an anæsthesia of 50 minutes. Hence it may be stated that with ether the blood pressure is well maintained, whilst with chloroform there is a steady fall.

Spinal anæsthesia.—Of late years this method, which, by the introduction of a local anæsthetic within the spinal membranes, causes paralysis of the sensory cells and complete anæsthesia of the part supplied by these nerves, has been much used. A series of 200 cases have now been recorded by Barker,[4] and a full description of the methods of using it may be found in his papers. Novocaine, stovaine, and tropacaine have all been used for this purpose and the difficulties and dangers associated with their early use have now been overcome with a more intimate knowledge of the dosage, &c.

FIG. 3.



Blauel's chart of the blood pressures with ether and chloroform anæsthesia. (L. Mummery, "Physiology and Treatment of Surgical Shock and Collapse.")

It has been shown that spinal anæsthesia does not, *per se*, cause the slightest fall in blood pressure, and that operations performed by this method, even in old and much exhausted people, are accompanied with remarkably little shock. About 0·05 gramme of the drug (stovaine) should be used. Many objections have been raised against it, but these would seem to be rather more sentimental than real and present results would point to this method occupying a prominent position in the future in the treatment of emergency surgical conditions.

The loss of blood and other fluids.—The loss of fluids does not actually produce shock but a condition of collapse. As, however, the symptoms in either case are due to the fact that the higher centres are not supplied with blood, it follows that a condition of shock is more likely to be brought about when the loss of blood is great, the dilated splanchnic area containing a relative greater amount of the fluid left. The same argument would, of course, hold good where there is a large amount of inflammatory fluid exuded, and this factor is probably an important one in cases of acute general or diffuse peritonitis, and is one of the causes of the early appearance of shock in these cases, although doubtless the result is more largely caused by toxic factors acting directly upon the centres.

It has already been pointed out that operations upon the head are often accompanied with severe shock. Now, these cases are in the majority associated with considerable hæmorrhage, and there is undoubtedly a close relationship between the two, as is seen by the fact that when precautions are taken to prevent this hæmorrhage, as will be described presently, the amount of shock will be greatly decreased.

TREATMENT.

The main causes of shock, direct and indirect, having been mentioned, the preventive and curative methods of treatment may now be considered.

(a) *Preventive.*

The greater number of these cases are emergency conditions, in which a certain amount of shock is already present, and thus, unfortunately, but little can be undertaken in the way of preventive measures. In other cases much may be done to increase the patient's resistance; and, what is more important, much may be left undone which under mistaken ideas was formerly very prone to bring about this condition.

In the preparation for operation drastic purgatives should not be given; these, by producing a temporary watery diarrhœa, cause a fall in the blood pressure; this is more likely to be the case in operations upon the rectum, and as the older methods, such as Kraske's operation, are still occasionally undertaken and are accompanied by a great deal of shock, this is specially to be avoided. The method now adopted as a routine in this hospital will be found the most useful in this respect. Either two nights or the night before the operation one dose of a purgative is administered, next morning an enema is given, and thus the bowels are only opened once or twice, and incontinence during operation is also avoided.

As regards *dieting previous to operation*, too much may be done from a fear of post-anæsthetic vomiting, but I feel certain that this is a fear which has been much exaggerated. One constantly sees cases in which no food has been administered for eight hours before an operation and yet vomiting occurs, the vomit containing undigested solid food; and it would seem that, under the fear or apprehension of the approaching operation, the progress of digestion is greatly retarded; therefore, to avoid this vomiting, no food would have to be given for a period which would be too long for practical purposes. Moreover, in the majority of these cases no harm follows the vomiting, and death or inconvenience is rare. It is a noticeable fact that when post-mortem acid digestion of the lungs is found nearly all the cases are those of general peritonitis and do not occur with simple anæsthetic vomiting; and if one regards such changes as due to the inhalation of gastric contents, as appears most probable, it would seem as if the bad effects of vomiting on the respiratory system only occur with the more severe type found in peritoneal affections.

The following figures taken from the records of this hospital are of great interest from this point of view:—In the period of 14 months (Jan. 1st, 1907, to March 1st, 1908) the total number of anæsthetics administered was 18,639. In the same period the total number of cases showing acid digestion of the lungs post mortem was 47. The number of these that had been operated on was 26. Of these general peritonitis was present in 21. Of the remaining 5, 3 had epithelioma of the tongue, jaw, or larynx, and thus the changes were probably largely due to inhalation pneumonia. 1 followed nephrorrhaphy. 1 followed amputation of an arm.

Thus, of 18,639 operations only 26 showed acid digestion of the lungs; of these 21 had general peritonitis and only 2 are left in whom the condition might possibly have been due to anæsthetic vomiting. But when we examine the 21 cases without operation we find:—General peritonitis present in 7; gastric ulcer (causing death) in 1 (vomiting of peritoneal origin); septicæmia in 4; perforation of cancer of the œsophagus to the lung in 2; burns in 4 (probably early post-mortem or septic changes); diabetes in 1; accident in 1; pneumonia in 1 (cause unknown). Thus, in this series we find an even larger percentage with acid digestion from no known cause which could not have been the administration of an anæsthetic, as none was given; and therefore it is probable that this unknown cause in the first series might have been some factor other than the anæsthetic.

Of course, food should not be given so shortly before an operation that gastric distension is caused. In this hospital the more rational course is now pursued; the patient is encouraged to take as large a breakfast as possible eight hours before operation, a cup of beef-tea is then given about five hours, and a second about three hours before operation. The only objection that can be raised against this course is the stimulant properties of the beef-tea; it might probably be better replaced by some light fluid diet.

The anæsthetic must be carefully chosen and in all cases where possible ether should be administered, or if chloroform be given this should be in mixture with ether. Should there be any marked counter-indication to the use of ether spinal anæsthesia would, from the point of view of shock alone, be indicated in preference to chloroform.

In the direct prevention of the fall of blood pressure many methods may be adopted. Undoubtedly the best of these is the pneumatic suit introduced by Crile. It consists of a rubber suit which is applied to the body and limbs, the pressure within being raised and maintained at any level by means of a hand pump. If, at the same time, blood pressure tracings are taken and recorded at short intervals, the pressure may be kept absolutely under control. As Crile points out, its use is specially adapted for operations upon the head; as has been pointed out, these operations are often associated with marked shock, which is accentuated by the accompanying and often severe loss of blood. By the application of the suit the shock may be prevented, and by sitting the patient up the bleeding can be greatly diminished, the steps in the operation being thus made clearer and the difficulties lessened.

Since the condition of shock is chiefly due to the accumulation of blood within the splanchnic area, this method cannot be so satisfactorily used in acute abdominal cases. In these, however, some good may be accomplished by applying such a suit to the limbs, or having these tightly bandaged previous to operation. Crile's experiment, showing that abdominal operations were free from shock when the superior mesenteric artery had been previously clamped, suggests that some means of temporary ligature might, in these cases, be adopted. The method of such temporary ligature in the case of the common carotid artery was, I believe, first introduced by Mr. Rivington,[6] of this hospital, and several other cases were dealt with in a similar manner by Sir Frederick Treves.[7] In one case the temporary ligature was applied for half an hour with no subsequent complication. Crile has invented a rubber-coated clamp which he has applied to the common carotid, and states that in dogs it may be kept in position for as long as 24 hours without damage to the artery. Hence it is possible that a similar clamp might be used for a short period on the superior mesenteric artery, but further experiments, showing how long the gut might safely be left without its blood-supply, are necessary before such a method is brought into practice.

The fact that exhaustion of the vaso-motor centres is caused by afferent impulses passing along the main nerve trunks suggests that any method which will prevent the passage of these impulses will be of value in preventing shock. Crile adopted the method of injecting cocaine into the main nerve trunks in his experiments, and no shock resulted, however severe the injuries. Lockhart Mummery and Cushing have also used this method in man previous to large amputations, such as the fore-quarter, and found that there was no fall of pressure on dividing the nerves, but in cases of a similar nature where this previous treatment was not adopted there was a marked fall. This method being very simple and having a marked effect deserves a far wider application in all cases of amputation of a limb. A 2 to 4 per cent. solution of cocaine should be used; at the same time trauma to any area richly supplied with nerves should be limited as far as possible. This is specially so in the case of abdominal operations; here mere exposure of the intestines is sufficient trauma to cause a marked effect, although it is perhaps aided by evaporation from the exposed peritoneal surfaces. Hence evisceration should be avoided as far as possible, and if it be found necessary to turn out the intestines they must be protected by sterile towels wrung out in hot saline solution.

The next question that has to be considered is the maintenance of the bodily heat. This should be kept as near normal as possible, as it is found that shock is always associated with a fall of temperature, and it seems highly probable that this may be a causative factor. It may, however, easily be overdone, and if the patient be made to sweat freely there is no doubt that the excessive dilatation of the capillaries will largely aid in keeping down the already lowered pressure; at the same time the free loss of fluid by evaporation will tend to keep up the concentration and high specific gravity of the blood, which has been shown to be constantly present in this condition.

(b) *Curative.*

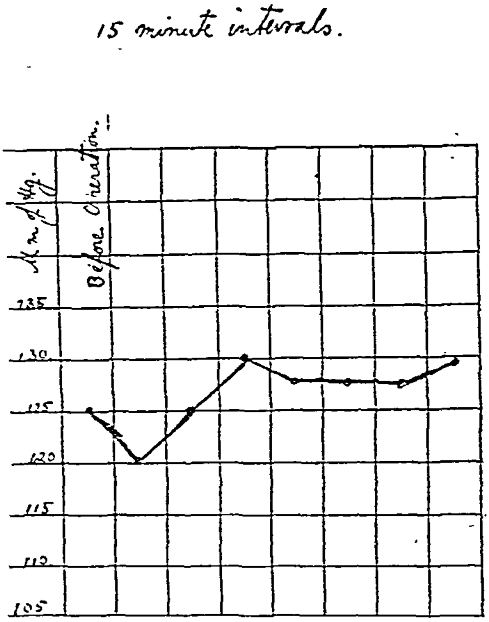
The curative methods to be made use of when once the condition has been established will have to be considered under the following headings: Drugs, Infusion of fluids, and Mechanical methods.

Drugs.—It is in this direction that general improvement in the lines of treatment is most necessary. In a large number of cases the condition of shock is largely treated by dosing the patient with strychnine and by administering coffee and brandy either by the mouth or as enemata. As will be shown, such treatment appears to be not only useless but positively dangerous, and one is often struck by their marked failure in severe cases to cause any reaction whatever; in fact, the patient tends to go steadily down hill.

The effect of various drugs in this condition is as follows:—

Strychnine.—In health this has been shown to have a very marked effect upon the blood pressure; the vaso-motor centres are stimulated, the peripheral vessels thereupon contract, and this is followed by a marked rise in the pressure. A similar change occurs with very slight degrees of shock. But in the more severe degrees, since the whole condition is due to an exhaustion of these centres, one would not expect that their stimulation would be followed by any valuable result; in fact, a further exhaustion would be expected. As already mentioned, Lockhart Mummery[1] and Crile[2] have shown that in profound shock in animals there is no rise in pressure after the administration of strychnine and the former has also shown that in the same condition in man there is no rise. In very slight cases, then—i.e., those that really require no drug treatment—there is a reaction to the drug, as is shown in Fig. 4. This chart, together with the five following, I have been able to obtain by the aid of one of the sisters here and by the courtesy of Dr. G. F. Bird and Dr. R. S. Woods. In this case the pressure never fell more than five millimetres of mercury below the normal and therefore never presented symptoms. In slightly more severe cases there is a preliminary rise, but this is soon followed by a more marked fall, the subsequent height of the pressure being less than that before the administration of the drug. Such a condition is well shown in Fig. 5. In severe cases of shock this preliminary rise is absent also and the use of strychnine with stimulants is followed by a steady fall in pressure. It has been suggested that these effects are due to the fact that absorption does not take place owing to the lowered pressure; that this is not so is shown by the fact there is no rise even if the drug be injected intravenously. The same ill-effects are likely to occur with preliminary injections of strychnine as a preventive measure; one dose of 1-60th or 1-30th of a grain given immediately beforehand is only likely to lead to an exhaustion of the centres and thus render them less able to resist the causes of shock. Lockhart Mummery has, however, suggested that the drug might in certain cases be given regularly for about a week before operation in the hope of causing physiological hypertrophy of the centres. Figs 6 and 7 are from cases of severe shock treated with strychnine; the contrast with Fig. 4 is striking; not only is there no reaction but a steady fall occurs.

FIG. 4.

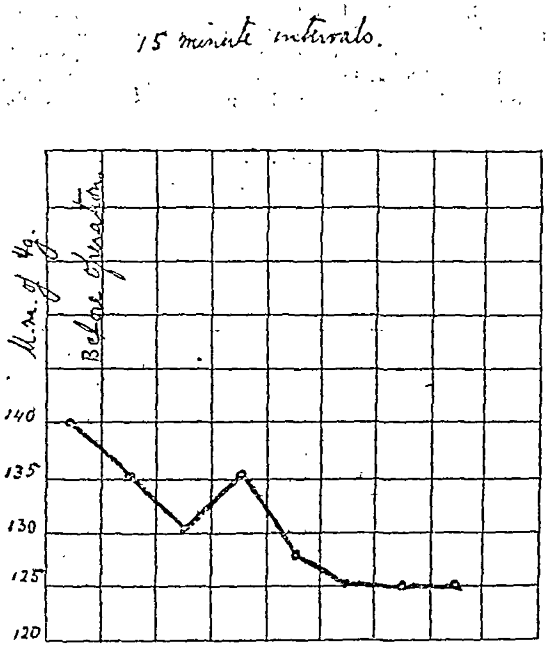


Patient aged 11 years. Fæcal fistula. Lateral anastomosis. The patient was given strychnine, 1-60th of a grain, and a second 1-60th a quarter of an hour later in the theatre. On returning to the ward one ounce of brandy was given. The very slight amount of shock and the ready reaction to stimulants are seen.

Other stimulants.—An effect similar to that caused by strychnine follows the use of other stimulants, as shown both by experiments upon animals and by clinical observations.

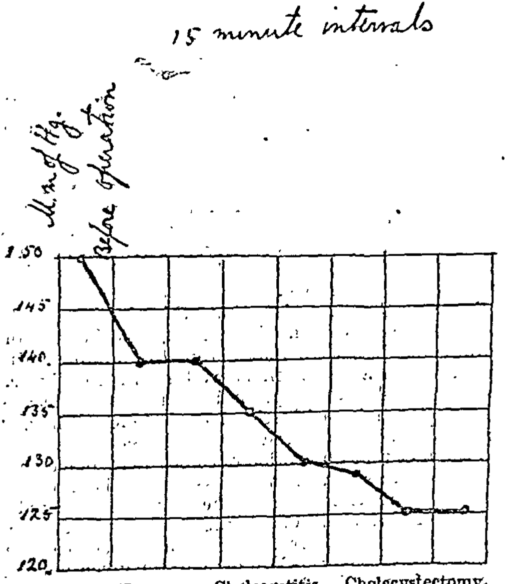
With ether and brandy the harmful effects are more marked, for these drugs cause a dilatation of the peripheral vessels. Thus it may be stated that these drugs should not be given in cases of moderate or severe shock as they are only liable to increase the fall in pressure and that their use previous to or during operation is to be condemned on the same grounds.

FIG. 5.



Patient aged 53 years. Obstructed umbilical hernia. Moderate shock. 1-30th of a grain of strychnine and four ounces of brandy were given. The slight rise of pressure followed by a more marked fall is well seen.

FIG. 6.



Patient aged 45 years. Cholecystitis. Cholecystectomy. *Severe shock.* 1-30th of a grain of strychnine was given. There is a steady fall of pressure from the commencement. Two pints of saline solution were also given per rectum.

Atropine acts in somewhat similar manner, causing a preliminary stimulation followed by paralysis of the vaso-motor centres.

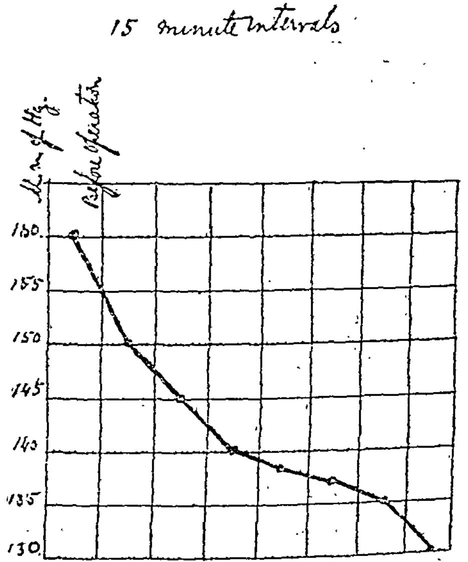
Cardiac stimulants.—Good examples of these are digitalis and strophanthus; they act by stimulating the heart itself and thus affect the other factor concerned in the maintenance of the pressure. But, as previously shown, in cases of severe shock, the rapidity of the heart has already increased as far as possible but has failed to overcome the fall, hence but little good is likely to follow the use of such drugs, and clinically such is found to be the case.

The next series of drugs to be considered has a completely different action, the exhausted centres are left untouched and allowed to recover naturally, but the vessels themselves are directly stimulated to contract, and as they are not exhausted this would be expected to be followed by a marked reaction with a rise in pressure.

Suprarenal extract.—Of the drugs at present in use this has the most evident effect upon the blood pressure and causes a considerable rise. Its action in causing contraction of the peripheral arterioles is now well known. Mummery and Crile have shown that its injection in cases of severe shock is followed by a very characteristic rise in pressure, and in the case of the pithed animal, previously mentioned, Crile found that strychnine had no effect, but the injection of suprarenal extract caused the pressure to rise again to the level of normal. If given by the mouth its composition seems to be altered so that no effect follows.

It is stated that when given subcutaneously there is no absorption owing to the local contraction of the vessels, but in a case of elevation of a depressed fracture of the skull and removal of a large area of bone this method used continuously was followed by a marked improvement. The pulse immediately after operation could not be felt at the wrist, but a quarter of an hour after injection had been commenced it was nearly as strong as normal and the patient made a perfect recovery. I regret that in this case no tracing was taken. It is probable then that some absorption does take place, but it is liable to be followed by some local necrosis and therefore this method should not by preference be used. In the same way it is stated that if given by the rectum either it is not absorbed or is altered in composition before absorption. But in many cases where the patient has been treated by this method a well-marked reaction has been shown by tracings (Figs. 8 and 9). It may be claimed that the whole effect in these cases is due to the fluid absorbed at the same time, but in other cases (Figs. 6 and 7) where fluid was given with no suprarenal extract the effect was either absent or not so marked. So from these observations it would seem to be a useful method of administering the drug, and, for reasons which will be mentioned later, is the method to be adopted for preference. It is usually given by continued intravenous injection, but this presents some practical difficulty. A similar effect follows the use of hemisine.

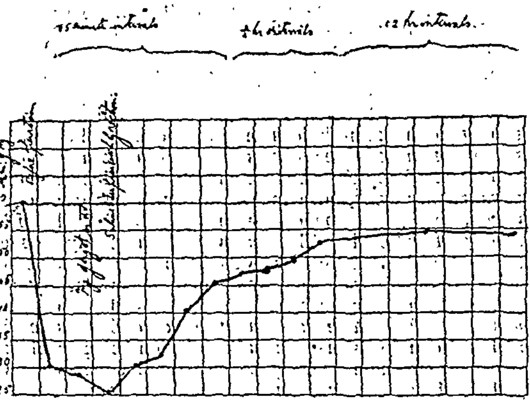
FIG. 7.



Patient aged 56 years. Gastric ulcer. Anterior gastrojejunostomy. *Severe shock.* Patient was given 1-30th of a grain of strychnine and one ounce of brandy. There is a steady fall of pressure from the commencement. Two pints of saline solution were also given per rectum.

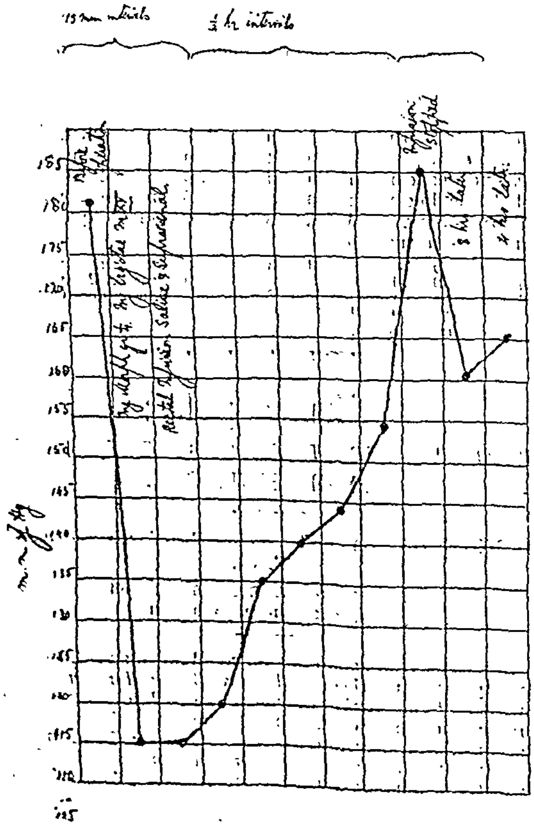
The objection to the use of these derivatives of the suprarenal gland is that their effect lasts only for a few minutes, three or four; this is, however, readily overcome by continuous injection, which may be made to last some hours, and thus the effects of the drug maintained until the condition of shock has passed off, and as it produces its effects even when given in small doses, sufficient is not administered even by these continuous methods to give rise to any toxic symptoms. Crile advises that it should be given in a 1-50000 or 1-100000 solution. The strength I prefer is 1-160000, that is one drachm to the pint of the solution sold. This is a dilution easy to remember and to make up, and appears to be sufficiently strong for its purpose. The dilution is made with normal saline solution.

FIG. 8.



Patient aged 25 years. Strangulation of gut by diverticulum. *Severe shock.* Patient was given ergot hypodermically and continuous rectal infusions of saline solution and suprarenal extract 1-160000th Oi. per hour, also injections of morphine ¼ grain. The rise in pressure after the suprarenal is well marked.

FIG. 9.



Patient aged 52 years. Amputation of breast, removal of axillary glands. *Severe shock.* Patient was given ergot hypodermically, and continuous rectal infusion of saline solution and suprarenal extract 1-160000th Oi. per hour, also injections of morphine ¼ grain. The marked fall in pressure from the operation, and the steady rise, even to above normal, are well shown.

As regards the method of administration, intravenously is perhaps the best physiologically, but it necessitates the formation of a new wound with after-pain to the patient, and it is more difficult to manage. When the fluid is given for some hours it must be left in charge of a nurse, to whom the methods of dealing with blockage of the tubes, leakage, &c., often present considerable difficulties. Subcutaneous injection has the same objections, with the addition that the insertion of a large quantity of fluid here, even if given slowly, may cause considerable pain, and, if the solution be too strong, may even cause sloughing of the overlying skin. In one case where the solution was given 1-20000, an area about six inches by four inches sloughed out of the inner side of each thigh, and necessitated subsequent skin grafting. Continuous rectal injection presents none of these difficulties. A rubber tube is arranged as a syphon from the bowl of fluid, which is raised about one foot above the level of the patient. At the other end of the tube is connected a glass vaginal nozzle, which is passed three or four inches up the rectum, and the fluid, at a temperature of from 108° to 112°F., is allowed to run in at the rate of one pint an hour. The only objection that can be raised is that the absorption of the extract does not take place, but I have already shown that this objection does not seem to hold good.

Ergot.—The effects of this drug are very similar to those of the suprarenal products, but they last considerably longer. Lockhart Mummery,[1] experimenting with it upon a cat, showed that a steady rise was caused which was maintained for 20 minutes. The objections to it are that its preparations are uncertain; a useful and fairly reliable one is the B.P. hypodermic injections, as made at the dispensary of this hospital—15 minims will be found a useful dose.

Morphine.—As already mentioned, the anæsthetic, by decreasing the pain and the afferent impulses to the vaso-motor centres, decreases the amount of shock. As the effect of the anæsthetic passes off and the pain of the wound becomes again appreciable it would be expected that the shock would be more marked, and such is often found to be the case; Figs. 5, 6, and 7 show a steady fall of pressure after the operation has ceased. By giving morphine this appreciation of pain is much decreased and the condition of shock is not maintained; morphine is also well known as a cardiac stimulant and is thus of use for this effect.

(To be concluded.)

EXTIRPATION OF THE LACRYMAL SAC.

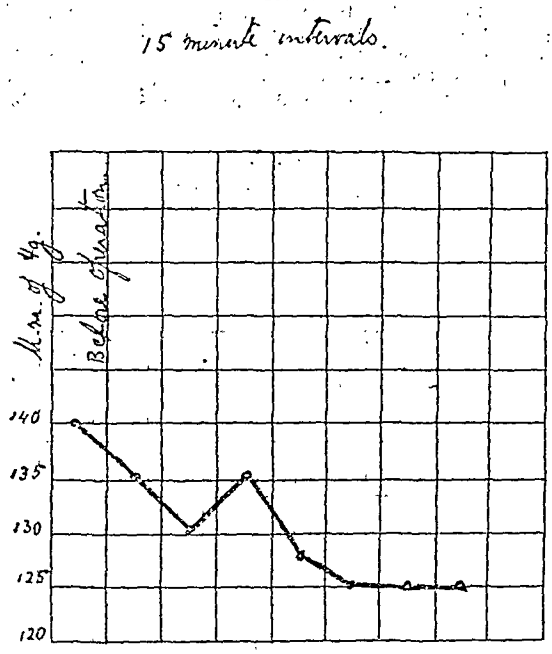
BY O. J. CURRIE, M.B. LOND. & CAPE UNIV.,
M.R.C.S. ENG.,
SURGEON TO GREY'S HOSPITAL, PIETERMARITZBURG.

THE lacrymal sac is deeply situated at the lower and anterior part of the inner wall of the orbit, resting on the lacrymal groove. It forms the upper dilated end of the lacrymo-nasal duct, which drains the conjunctival sac and conducts superfluous tears into the nasal cavity.

Dacryocystitis, or inflammation of the lacrymal sac, may be acute or chronic. Acute cases should be treated with hot fomentations, pus should be evacuated if an abscess forms, and the sac should be syringed out through the incision or through the upper or lower canaliculus. Probing the nasal duct should not be resorted to until after syringing out the sac has been given a trial, and not in any case until the acute symptoms have subsided. Chronic dacryocystitis should be treated as follows. First, by syringing out the sac with antiseptic and astringent lotions, such as solutions of boric acid, chinosol, or argyrol; secondly, if perseverance in the above treatment fails, by slitting the upper or lower canaliculus and dilating the nasal duct with probes; and thirdly, in neglected or intractable cases which cannot be cured by the above means, destruction or extirpation of the lacrymal sac is necessary.

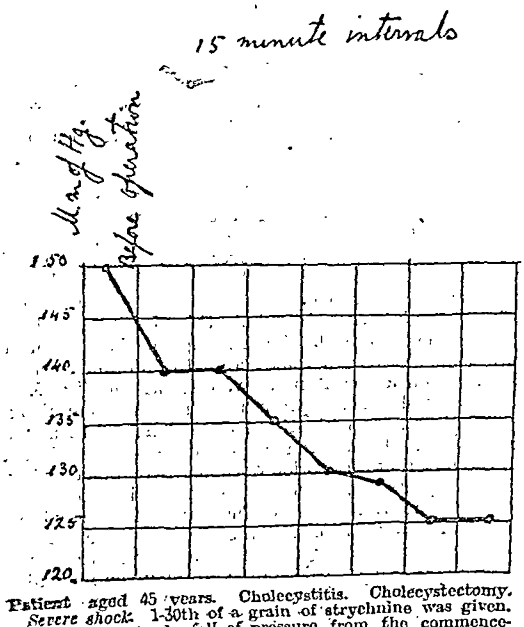
With ether and brandy the harmful effects are more marked, for these drugs cause a dilatation of the peripheral vessels. Thus it may be stated that these drugs should not be given in cases of moderate or severe shock as they are only liable to increase the fall in pressure and that their use previous to or during operation is to be condemned on the same grounds.

FIG. 5.



Patient aged 53 years. Obstructed umbilical hernia. Moderate shock. 1-30th of a grain of strychnine and four ounces of brandy were given. The slight rise of pressure followed by a more marked fall is well seen.

FIG. 6.



Patient aged 45 years. Cholecystitis. Cholecystectomy. *Severe shock.* 1-30th of a grain of strychnine was given. There is a steady fall of pressure from the commencement. Two pints of saline solution were also given per rectum.

Atropine acts in somewhat similar manner, causing a preliminary stimulation followed by paralysis of the vaso-motor centres.

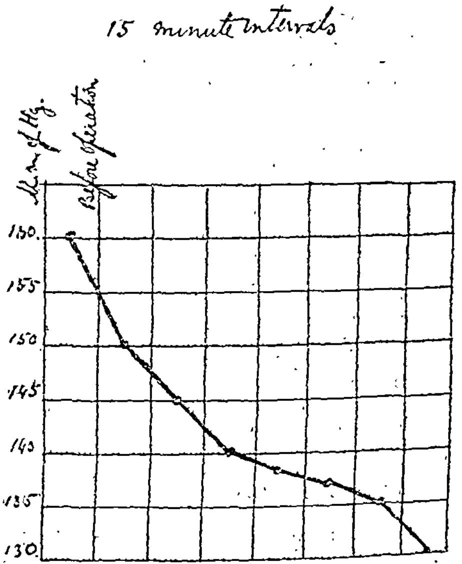
Cardiac stimulants.—Good examples of these are digitalis and strophanthus; they act by stimulating the heart itself and thus affect the other factor concerned in the maintenance of the pressure. But, as previously shown, in cases of severe shock, the rapidity of the heart has already increased as far as possible but has failed to overcome the fall, hence but little good is likely to follow the use of such drugs, and clinically such is found to be the case.

The next series of drugs to be considered has a completely different action, the exhausted centres are left untouched and allowed to recover naturally, but the vessels themselves are directly stimulated to contract, and as they are not exhausted this would be expected to be followed by a marked reaction with a rise in pressure.

Suprarenal extract.—Of the drugs at present in use this has the most evident effect upon the blood pressure and causes a considerable rise. Its action in causing contraction of the peripheral arterioles is now well known. Mummery and Crile have shown that its injection in cases of severe shock is followed by a very characteristic rise in pressure, and in the case of the pithed animal, previously mentioned, Crile found that strychnine had no effect, but the injection of suprarenal extract caused the pressure to rise again to the level of normal. If given by the mouth its composition seems to be altered so that no effect follows.

It is stated that when given subcutaneously there is no absorption owing to the local contraction of the vessels, but in a case of elevation of a depressed fracture of the skull and removal of a large area of bone this method used continuously was followed by a marked improvement. The pulse immediately after operation could not be felt at the wrist, but a quarter of an hour after injection had been commenced it was nearly as strong as normal and the patient made a perfect recovery. I regret that in this case no tracing was taken. It is probable then that some absorption does take place, but it is liable to be followed by some local necrosis and therefore this method should not by preference be used. In the same way it is stated that if given by the rectum either it is not absorbed or is altered in composition before absorption. But in many cases where the patient has been treated by this method a well-marked reaction has been shown by tracings (Figs. 8 and 9). It may be claimed that the whole effect in these cases is due to the fluid absorbed at the same time, but in other cases (Figs. 6 and 7) where fluid was given with no suprarenal extract the effect was either absent or not so marked. So from these observations it would seem to be a useful method of administering the drug, and, for reasons which will be mentioned later, is the method to be adopted for preference. It is usually given by continued intravenous injection, but this presents some practical difficulty. A similar effect follows the use of hemisine.

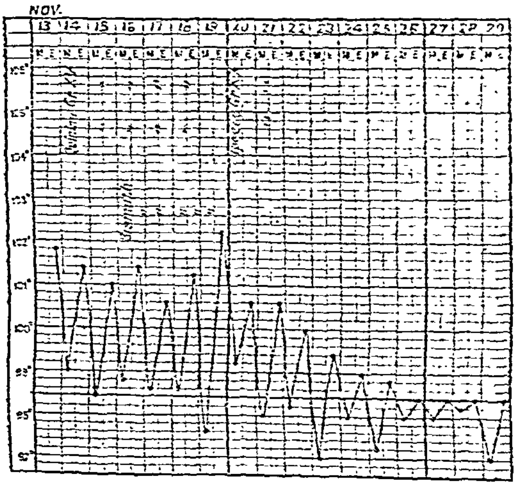
FIG. 7.



Patient aged 56 years. Gastric ulcer. Anterior gastro-jejunostomy. *Severe shock.* Patient was given 1-30th of a grain of strychnine and one ounce of brandy. There is a steady fall of pressure from the commencement. Two pints of saline solution were also given per rectum.

ten days of his illness; afterwards Dover's powders and a diet of goat's milk. He had had no nausea, vomiting, cough, or symptoms referable to the chest or abdomen; the stools, two or three per diem, had been "porridgy"; there was no blood, mucus, or pain with movements of the bowels. His previous history elicited an eight months' residence in this country during which he had had many attacks of "fever"; one attack had been thought to be tick-fever; in the last attack, however, malarial parasites had been found. Previous to coming to this country he had been in South Africa for nine or ten years, and in 1901 had been treated in Bloemfontein Hospital for enteric fever, followed one week after discharge by dysentery with typical acute symptoms, the attack lasting four weeks. Since then, till the present illness, he had had no returns of symptoms or diarrhœa.

On the evening of admission the blood was examined for malarial parasites and two only were seen, ring forms (malignant tertian), no crescents. The following five days quinine was given: 15 grains the first two days and then 20 grains as solution of bi-hydrochlorate. This had no effect on the temperature, which showed an evening rise, averaging 101°, and the pulse was from 66 to 88 per minute. The urine was normal. There were two motions per diem, watery, with little fæcal matter, but neither mucus nor blood except on the second day after admission when what appeared to be a small old blod clot was passed. No improvement was effected by 20-grain doses of bismuth three times a day for three days. Microscopical examination of the stools proved negative as regards amœbæ. The tongue was thickly furred and the patient complained of weakness, headache, and profuse sweats in the evening. The spleen could just be felt; the liver showed no enlargement to percussion or tenderness to palpation; there were no other physical signs in the chest or abdomen. At the end of the week, during which time no other malarial parasites had been found, quinine was discontinued and it was determined to try ipecacuanha. It was given in wafer, in 20-grain doses, on two consecutive days on an empty stomach, 20 minutes after a 20-minim dose of tincture of opium, as recommended by Manson. The result was immediate: the temperature commenced to fall, reaching normal in four days, and thereafter not rising again; the stools became more and more formed, being normal in three days; the tongue cleaned, and the patient expressed himself as feeling much better. The convalescence was uneventful, full diet being attained by the end of a week of normal temperature.



The complete chart also recorded a pulse frequency varying from 66 to 90, generally keeping between 80 and 88. The record of the evacuations showed "2 loose" on the second day, "3 loose" on the third day, then "2 loose" with one intermission until the twelfth day, after which "1 formed" is recorded daily with two intermissions. The diet is also described. "Nov. 13th: Milk, soda, chicken broth. Nov. 25th: Milk pudding, bread and butter. Nov. 28th: Eggs, toast, fish, potato. Dec. 1st: Chicken, duck."

Major Rogers lays stress on a particular type of leucocytosis as being of value in making a diagnosis in these cases. Unfortunately, I was unable to make a "white count" till after the treatment had done its work—white cells then numbered 9000 per cubic millimetre. I think, however, that with the past history of dysentery the three weeks' pyrexia, immediately reacting to treatment by ipecacuanha, places this case among those that Major Rogers puts in Class IV. of his series, "Cases without Dysentery or Liver Symptoms treated with Ipecacuanha."

Blantyre, Nyasaland.

A NOTE ON THE EXTRACTION OF FOREIGN BODIES FROM THE TISSUES.

BY HUBERT CHITTY, M.S. LOND., F.R.C.S. ENG.,

RESIDENT CASUALTY HOUSE SURGEON, ST. MARY'S HOSPITAL, PADDINGTON.

THE following description applies only to the removal of those bodies which are opaque to the x rays. The patient is taken into the x ray room and the foreign body is roughly localised with the aid of a fluorescent screen. The area in which an incision will have to be made is then carefully cleansed and is infiltrated with a 1 per cent. solution of eucaine. A further examination of the part is now made with the x rays. Guided by the shadows thrown upon the screen, the surgeon plunges the needle of the infiltrating syringe into the tissues till it touches and (in the case of a needle) lies as nearly as possible parallel to the foreign body. A few more drops of solution may now be injected and the syringe is then detached from its needle, which is left sticking into the part. This needle is cut down upon and the incision necessarily exposes the foreign body at the same time.

Except where the foreign body lies very deeply it is often quicker to surround both it and the localising needle by an elliptical incision and to remove them both, together with a little skin and subjacent tissue, in one mass. The wound when closed by a stitch or two leaves no more scarring than does a linear incision.

I have chiefly used this method in cases of "needle in the hand," but it is, of course, equally applicable to the removal of glass, shot, &c. It is rapid and certain, and the minimum of damage is inflicted on the soft parts. Strict asepsis is easily maintained, for, once the infiltrating needle has been brought into contact with the foreign body, no further screening of the part is required.

This plan for localising a foreign body is simpler and more accurate than any method of skin marking with which I am acquainted. Anyone who has had to hunt for small pieces of needle deeply imbedded in the muscles will appreciate its advantages.

St. Mary's Hospital, Paddington.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

The Tone of Cardiac Muscle.

A MEETING of this section was held on June 23rd, Dr. D. B. LEES being in the chair.

Dr. A. M. GOSSAGE read a paper on the Tone of Cardiac Muscle. He said that muscle was probably capable of two kinds of contraction—the ordinary twitch and "tone," and these might occur separately or in combination. Tone was never absent, so that the ordinary muscular contraction was superimposed on tone, but increase of tone diminished the size of that contraction; in other words, tone diminished contractility. Tone, unlike the ordinary muscle twitch, had no refractory period and was directly dependent on the strength of the stimulus. Tetanus was purely a phenomenon of tone. In cardiac muscle Porter had shown that tone diminished conductivity as well as contractility and it was probable that it also diminished excitability. Dilatation of the heart was due to loss of muscular tone and, as would be expected, was associated with increase of excitability, conductivity, and contractility.

Theobald mentions the following surgical procedures for the cure of dacryocystitis: (1) The restoration of the natural passages; (2) the formation of a new passage into the nose; (3) the obliteration of the natural passages, the lacrymal sac and duct; and (4) the removal of the lacrymal gland. Desmarres recommended the third of these proceedings only when the case was incurable by other means. Theobald agrees with this and recommends the use of large-sized probes as a means of restoring the patency of the nasal duct.

H. Knapp gives the following indications for extirpations of the lacrymal sac, viz.:—In all cases where an important lacrymal disease can otherwise not so well or not at all be cured, as in the following conditions: (1) Large mucocele; (2) chronic lacrymal fistula; (3) fibrous or osseous occlusion of the nasal duct with lacrymation and discharge; (4) chronic stricture of the nasal duct with lacrymation and discharge; (5) chronic dacryocystoblennorrhœa with degeneration of the walls of the sac; and (6) chronic catarrhal dacryocystitis with repeated attacks of phlegmonous inflammation.

Although destruction of the lacrymal sac by the actual cautery in cases of lacrymal fistula appears to have been performed in the days of Celsus it was not till 1724 that the more surgical procedure of extirpation by the knife was performed by Platner, and there still seems to be some divergence of opinion among surgeons as to the indications for the operation and also as to whether the knife or the cautery should be employed. I think it is now generally recognised that the operation might be more frequently performed than it is in cases of dacryocystitis, which, owing to neglect of the patient or perhaps unwise or too vigorous treatment in the early stages, have lapsed into a state of chronic suppuration. The old treatment by caustics or the cautery is now being rejected in favour of the cleaner and more surgical proceeding of extirpation.

The objections urged against the operation are its dangers and difficulties. The chief danger is orbital cellulitis and its complications, which can be avoided by careful asepsis and by drainage of the wound. The sac must be frequently syringed out with an antiseptic lotion for some days before the operation in order to diminish the risk of infection of the wound, and drainage by means of a few strands of catgut or a fine strip of gauze should certainly be employed in order to give exit to any blood or serum which might form a nidus for the growth of pathogenic germs in the depths of the wound.

The difficulties of the operation arise from the deep situation of the sac beneath the tendo oculi and from the field of view being obscured by hæmorrhage. The former can be readily overcome by making the incision sufficiently free and by the use of suitable retractors, such as Axenfeld's, and the latter is now avoided by sponging out the wound with adrenalin solution (1 in 1000).

It is a curious fact that complete removal of the lacrymal sac results in a cure of the epiphora. There are two theories to account for this apparent paradox. 1. Physiological sympathy induces the gland to cease secreting. 2. That under normal conditions the amount of tears secreted by the gland is only sufficient to keep the conjunctiva moist and that in health, unless under exceptional circumstances, such as emotion or irritation of the conjunctiva, there is no excess of tears and no overflow down the nasal duct. Probably both these hypotheses are correct, as it is stated that if a portion of the lacrymal sac is accidentally left behind it excites a reflex secretion of tears and keeps up watering of the eye. The following case, which has recently been under my care, illustrates many of these points.

A boy, aged 13 years, was kicked in the face by a horse about six years ago. The result of this accident was the formation of a lacrymal abscess and fistula. About a year after the accident he came under my care suffering from chronic dacryocystitis and lacrymal fistula. The treatment adopted consisted of first syringing out the sac; afterwards the lower canaliculus was slit and the nasal duct was probed. The edges of the fistula were curetted and on the establishment of drainage into the nose the fistula healed. The sac, however, continued to secrete pus, but the patient, refusing further treatment, ceased to attend and did not come under my care again till December, 1907. When I saw him then the lacrymal sac was secreting pus freely, the upper lid was covered with velvety granulations, the conjunctiva was intensely injected, and the cornea was inflamed, vessels beginning to extend into its substance, forming pannus. Great photophobia and lacrymation were prominent symptoms. Conjunctivitis and keratitis were also present in the other eye. The conjunctiva was washed many times daily with boric acid lotion, and the lacrymal sac was syringed out with chinosol solution 1 in 4000. This treatment was only kept up for a few days, as the boy again became impatient, and on Jan. 2nd the operation of excision of the lacrymal sac was performed. The mucous membrane along the upper edge of the tarsal cartilage of the upper lid was first excised with scissors in order to diminish the vascular supply to the granulations on the eyelid. The usual antiseptic precautions were observed and chloroform having been administered an incision about one and a half inches in length, commencing well above the tendo oculi, was carried downwards, and then round the inner third of the inferior margin of the orbit. The sac, which was easily recognised by its bluish-white colour, was cleared; the tendo oculi being divided, the sac was then separated from the bone beneath by means of the knife and curved scissors. The whole sac was then carefully dissected out with knife and scissors; adrenalin solution being employed to arrest hæmorrhage. Owing to cicatricial adhesions a small portion of the sac was torn off and left behind; this was afterwards dissected away and the wound was freely curetted. The canaliculi were cut through and the nasal duct, as far as possible, separated with fine scissors and knife from the lacrymal canal, and the upper part of the nasal duct divided. The wound was stitched up with fine silk, including the skin and tendo oculi with its fibrous expansion, and a small gauze drain left in the lower angle. As the eyelids were swollen and puffy for a day or two after the operation the gauze drain was kept in for three or four days. There was a certain amount of suppuration in the track of the drain but the temperature never rose above 99° F. and in about a fortnight the wound was soundly healed. The inflammation of the conjunctivæ and corneæ gradually subsided, and when last seen, excepting for the slight scar, the eye had quite its normal appearance. There was no weakening of the lids in consequence of the division of the tendo oculi, the latter having been carefully stitched. There was no epiphora, except when caused by emotion or any unusual irritation.

Bibliography.—Norris and Oliver: System of Diseases of the Eye. Juler: Ophthalmic Science and Practice. George A. Berry: Diseases of the Eye. Grimsdale and Brewerton: Ophthalmic Operations. Haab: Operative Ophthalmology.

Pietermaritzburg, Natal.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON LATENT DYSENTERY IN CENTRAL AFRICA.

By HUGH S. STANNUS, M.B. LOND.,
MEDICAL OFFICER, NYASALAND.

IN a paper read before the Royal Medical and Chirurgical Society, and published in the *Practitioner* for June, 1907, entitled "The Early Diagnosis and Cure of the Pre-suppurative Stage of Amœbic Hepatitis," Major Leonard Rogers, I.M.S., described a series of cases in India presenting symptoms which he has shown are associated with the hepatitis of amœbic dysentery before abscess formation and which are capable of cure by ipecacuanha. It is with the idea of drawing the attention of those practising in Africa to the fact that this class of case may be met with in this continent that I give a short account of a case occurring in Nyasaland.

A man, single, aged 30 years, was admitted to hospital on Nov. 13th, 1907, with a temperature of 101·8° F. and a pulse-rate of 80. He was depressed, weak, and unable to walk. He gave a history of two weeks' fever, headache, malaise, with some looseness of the bowels. He had taken 20 grains of quinine per diem during the first became irregular under the administration of digitalis. That irregularity was of several kinds, of which the commonest form was the development of a "bigeminal action" where an extra-systole followed each normal beat. A bigeminal action was not uncommon in over-excitable hearts where no drug had been employed, and a probable explanation of its occurrence after digitalis was that the decreased rate had allowed a hidden bigeminal action to appear. For that explanation to be applicable it was necessary that the interval before the extra-systole should be longer than the intervals between adjacent beats before the administration of digitalis. Hering showed that a bigeminal action might be made to disappear by giving atropine, its disappearance coinciding with the time when the normal rhythm became so rapid that a normal beat occurred exactly at the moment when the extra-systole would be expected: any rate faster than that was regular, while any slower rate, as shown when the effect of the atropine wore off, was of the bigeminal character. A bigeminal action was not necessarily constant and they would not always expect a constant bigeminal action in cases occurring after digitalis. It was not necessary, therefore, to assume that in these cases the digitalis caused an increase of excitability contrary to its usual action of decreasing excitability. A second type of irregularity after digitalis might be produced by the occurrence of isolated extra-systoles. That might, of course, be merely a consequence of reduction of rate, since with a rapid rhythm there was very little opportunity for the occurrence of extra-systoles. Another type of irregularity after digitalis had to do with the depression of quite a different property of the muscle—namely, conductivity. There was abundance of evidence that digitalis depressed conductivity in animals and Mackenzie had shown that the same action took place in human beings provided that conductivity was somewhat depressed before the drug was given. In some cases there might be an apparent improvement in conductivity after digitalis owing to the slower rate giving more time for its recovery. In view of the small doses that it was possible to administer it is not surprising that depression of conductivity by digitalis was only observed clinically in cases where there was already evidence of its being damaged. The effect of digitalis on contractility was more difficult to estimate. There was no doubt of the more efficient working of the heart when digitalis had been given in suitable cases. That was partly due to the mechanical advantage of the decreased dilatation brought about by increased tone and partly due to the fact that the slower rate allows a longer time for the contractility to recover. In animal experiments, however, it was clear that both an increase of tone and the administration of digitalis resulted in a diminution of contractility. That drug, too, often produced an alternating action of the heart which had been supposed to be the expression of damaged contractility. The evidence of depression of contractility by digitalis in the human heart seemed sufficiently clear and they could have no doubt of that action of digitalis from the results of animal experiments. Probably only those patients whose contractility was already depressed would show any further recognisable lowering with digitalis. The foregoing arguments afforded sufficient justification for affirming that tone played the same important rôle in the human heart as in the animal and that increase of tone had the effect of diminishing the other properties of the cardiac muscle—namely, contractility, excitability, and conductivity. That conclusion, too, was of considerable clinical importance. The recognition of loss of tone as the important factor in dilatation of the heart was a great advance, and they now found in addition that many of the phenomena associated with dilatation were directly due to that loss of tone. The dependence of the other properties on tone afforded a remarkable method of self-regulation in the heart, so that it was enabled to do just the amount of work which was required of it. Some light was also thrown on the obscure subject of the action of digitalis on the heart, though it could not be said that that question was completely answered. Part of the action of digitalis was evidently secondary to its influence on the muscle tone, but how much of the damage done to contractility, conductivity, and excitability came from increased tone and how much from stimulation of the vagus could not at present be estimated. The narrowing of the coronary vessels would probably also tend to depress the properties of the cardiac muscle to an extent that was incapable of exact appreciation. It was important to note that in the case cited the digitalis had greatly improved the patient's general condition as well as the general working of the circulation in spite of the grave depression of conductivity and the occasional dropping out of ventricular beats. Mackenzie's and Gibson's patients had also benefited from the drug, although contractility was so damaged that there was alternating action of the heart. Evidently the improvement resulted from the increase of tone and these facts received their simplest explanation in the conception of tone that he (Dr. Gossage) had advanced.

Dr. J. MACKENZIE said that the paper had helped him to understand why there was an increase in the rate of the heart's beat in cases where sudden dilatation had taken place.

Professor A. R. CUSHNY said that it was interesting to find Dr. Gossage going back to the view that the action of digitalis on the heart may be due to what was called its elasticity, which was very much the same thing as the tonicity described by Dr. Gossage.

Dr. A. MORISON said that in the discussion of the subject they could not eliminate the influence of the nervous system or that of the blood.

Dr. H. A. CALEY said that the value of the paper by Dr. Gossage consisted in the evidence which it contained that digitalis was indicated in cases of cardiac myasthenia with dilatation, and if digitalis failed to do good in such circumstances causes such as degeneration of the coronary arteries or actual degenerative changes in the myocardium itself must be considered.

Dr. LEES laid stress upon the importance of ascertaining the true size of the heart in cardiac conditions which he said could quite easily be done by careful percussion. The use of digitalis was not indicated in cases of dilated heart due to an acute toxic condition, but where the condition was chronic then digitalis was useful.

Dr. GOSSAGE replied and the meeting terminated.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

African Tick Fever.

A MEETING of this society was held on June 19th, Sir PATRICK MANSON, *the President*, being in the chair.

Dr. C. F. HARFORD read a paper on African Tick Fever with special reference to its clinical manifestation and its relation to relapsing fever of India and other parts of the world. He said that the question must be raised as to how far tick fever had existed, for instance, in such a territory as Uganda for many years past, and whether the increase was as rapid as it seemed, or whether the increase was chiefly apparent and was really due to the fact that it was not recognised before. One point was quite clear and that was that the systematic examination of the blood, which was now being carried out by many medical men in Africa, made it possible to diagnose many diseases with certainty in a way which was not possible before. The society had considered on various occasions the special characters of spirochæta Duttoni which was generally acknowledged to be the cause of African tick fever, and he would only venture to express his opinion that the organism belonged to the protozoa, and that whilst there, no doubt, were slight morphological differences between that parasite and the one usually known as spirochæta Obermeieri, yet those did not appear to be greater than, if as great as, the differences between various forms of malarial parasites. He took it as proved that the form of fever, which for the sake of convenience he referred to as tick fever, was conveyed by the tick ornithodorus moubata. He then considered the series of notes of 66 cases which had been most kindly supplied to him by Dr. A. R. Cook and Dr. J. H. Cook of the Church Missionary Society, Uganda. Of the 66 cases 39 were males and 27 females; and again, out of the total number 46 were adults and 20 were children. Of the total number 57 were cured and nine were fatal. Blood examination was recorded in 57 out of the 66 cases and spirochætæ were found in all of these except one. In one of the cases only one spirochæta was found after a prolonged search, but in others they appeared to have been fairly plentiful. In some cases where spirochætæ

Indeed, the tone of cardiac muscle might be regarded as a method of storing up a reserve of force which was liberated on dilatation of the heart. The *action of the cardiac tonics* was mainly to cause an increase of muscular tone. In considering human hearts it was found that the phenomena *of* dilatation of the heart conformed with the theory as to the influence of tone. In the *dilated* heart the *diastolic relaxation* was obviously greater than in the normal heart, or, in other words, tone was diminished. In association with that they found excitability increased, as shown by the increased rate and the frequency with which extra systoles occurred. Conductivity was probably also increased, since they found no lengthening of the interval between the time of contraction of the auricles and that of the *ventricles, although* the heart was beating more rapidly. Experiments on animals showed that the recovery of conductivity was a gradual process requiring a certain amount of time and it was probable that the same was *true of human beings*, especially as a very considerable time was required for the recovery *of conductivity in cases where it was depressed*. In the dilated heart contractility was also increased, *since the heart had to perform more* work to maintain the circulation, and in the majority of cases the *circulation* was in a *fashion maintained*. The intense *labour* performed by the heart, even when ineffectual, was a common clinical experience in cases of dilatation. This excessive expenditure of energy was always liable to be followed by exhaustion and then the heart would fail in its task of keeping the circulation up to a sufficient standard. Since the dilated, toneless heart had to work too hard and was always in danger of failing, their object in treatment must obviously be to *restore some of the lost tone*. It was, *of course*, possible that that could be done by mechanical means; with diminished work there might be diminished pressure within the cardiac chambers and that *might* help in the *restoration* of tone. At any rate, the beneficial effects of rest and bleeding in cases of dilatation of the heart had *long* been recognised. Mechanical measures were, however, often *insufficient and had to be supplemented by the use of drugs*. Unfortunately, the action of drugs was seldom a simple affair and the *results* of *experiments* on animals were not always borne out in the clinical treatment of patients. The drugs employed in the treatment of dilatation and heart failure belonged mainly to the digitalis group and it was of great importance to understand their exact mode of action. Digitalis and strophanthus had in animal experiments a very similar action, except that digitalis constricted the vessels while strophanthus did not, and thus digitalis had the greater effect of the two in raising the blood pressure. Among other vessels, however, it also constricted the coronary arteries, and the flow of blood through the coronaries was of immense importance to the heart, increase of flow leading to increased size of the contraction and *vice versâ*. Even increased tension in the coronaries with an indifferent fluid, such as oil, might cause a quiescent heart to start beating again. Cushny pointed out that digitalis had two opposing actions on the heart—(1) as a stimulus and (2) as a bridle—, *and that it was difficult to predict* which result would follow *its exhibition* in a particular case. It seemed possible that a very large *part of the action of digitalis* might be explained *by regarding* it as a powerful stimulus to the heart, very similar to the interrupted *electric current in Porter's* experiments. It would stimulate the vagus, the muscle directly, and tone. In the *hearts of animals* the *first* effect *of* digitalis was usually to increase the size of the individual contractions, and at that stage the diastolic *relaxation* was often more marked, or, in other words, there was some diminution of tone. *Together with* those phenomena the rate of the heart was sometimes increased. Later there was a *decided and gradual increase of tone*, usually a diminution of rate and gradual decrease in size of the contraction. Still later the rate *increased again* with a *further* increase in tone; then delirium cordis might supervene and the heart finally stopped *in a condition of* excessive tone. The resemblance of all that to the phenomena accompanying gradually increasing tone in Porter's researches *on the* auricle of the tortoise was very striking, the main difference being that with digitalis the *whole process to the stoppage* of the heart in excessive tone or tetanus took much longer. Closer investigation had *shown* that excitability to direct stimulation was decreased in digitalis poisoning, while conductivity was also diminished even some*times to* the extent of causing a block between auricle and ventricle. Since Porter had demonstrated that increase of tone was sufficient to produce decrease of contractility (as *shown* by the diminished *size of the beats*) and decrease of conductivity, the action of digitalis in lessening *those two properties* must be partly due to its effect in augmenting the muscle tone and might be entirely due to the *alteration of tone*. The diminution of excitability was probably also partly due to the same cause, an increase of tone. Loss of tone was certainly associated with increased excitability so that it was probable *that increase of tone would lead to* decrease of excitability. The increased rate which appeared *later* in digitalis poisoning was probably *due to* direct stimulation of the muscle by the digitalis, while the terminal *delirium cordis* would have the same causation as the similar phenomenon noted by Porter with increased tone, the ventricle *not contracting as a whole, but isolated portions of* the wall contracting separately owing to decrease of conductivity. *Indeed, Sowton noticed that samples of digitalis* that caused marked delirium cordis usually also brought *about a striking decrease of conductivity as* shown by the number of the auricular beats that were not conducted to the ventricle. In that connexion it was *interesting to note that* Muskens had offered a similar explanation for the occurrence of *alternating* action of the *heart in digitalis* poisoning. That action where the beats were alternately large and small, although the *intervals* between *them* were approximately equal, had usually been attributed to failure of contractility but Muskens regarded it as resulting from a depression of conductivity which led to isolation of portions of the ventricular wall, and after every normal beat a contraction of only part of the ventricle. From animal experiments, *then, it seemed that digitalis acted at first as a stimulus* to the heart, increasing the contractility and often the rate, possibly also conductivity and excitability. Later it stimulated tone and with increased tone there was diminution of contractility, excitability, and conductivity. In human *beings the amount of the drug that* reached the heart must be small and the amount that it was possible to administer *was limited by the irritant effect of digitalis* on the gastro-intestinal tract. It was to be remembered, however, that the drug was cumulative in *its action so that a considerable* effect might be produced by small doses continued over a long time. The irritant action on *stomach and intestine* was not observed with strophanthus and that possibly constituted one of its dangers. The early stage of stimulation was difficult to demonstrate in clinical work, *although it* might be of importance. *Practically, however, as Mackenzie* had recently pointed out, it was only in cases of dilatation that marked results were obtained, or in other *words that* digitalis acted therapeutically mainly on the function *of* tonicity. Improvement often occurred quite *suddenly* although the drug might have to be administered for several days before any effect was produced. Very rapidly there might be a sensible decrease in the dilatation, the œdema might diminish, the liver shrink in size and there might be a decided rise in the blood pressure and in the amount of urine secreted. Coincident with the decrease in the dilatation the rhythm became less frequent and any irregularity was lessened. The decrease in frequency and irregularity was, no doubt, partly due to diminution of the excitability, though direct stimulation of the vagus might be the cause of a decreased rate of stimulus production and so a less frequent rhythm. Mackenzie had shown that a normal heart, or a diseased heart which was not at the same time dilated, was practically unaffected by such doses of digitalis as could be given to men by the mouth. That was perhaps only what should be expected since it was probable that a smaller dose would be required to increase the tone of a dilated heart (i.e., where tone was much diminished) than to add to the tone of a heart where *it* was already at the normal standard. The excitability of tone varied with different *circumstances in animals* and no doubt had the same variability in human beings. It was in cases of recent dilatation, or recent *increase of dilatation* when the muscle was healthy that the tone of the human heart seemed especially *susceptible to the influence* of digitalis. Experimentally tone diminished contractility and conductivity and *not improbably* excitability also, so *that* they would expect digitalis when it increased *tone in men to decrease* those other properties. Its effect on excitability was apparent; the diminution of *rate and of irregularity* showed its restraining influence. There were, however, [illegible] lar instances where a heart which was [illegible] became irregular under the administration of digitalis. That irregularity was of several kinds, of which the commonest form was the development of a "bigeminal action" where an extra-systole followed each normal beat. A bigeminal action was not uncommon in over-excitable hearts where no drug had been employed, and a probable explanation of its occurrence after digitalis was that the decreased rate had allowed a hidden bigeminal action to appear. For that explanation to be applicable it was necessary that the interval before the extra-systole should be longer than the intervals between adjacent beats before the administration of digitalis. Hering showed that a bigeminal action might be made to disappear by giving atropine, its disappearance coinciding with the time when the normal rhythm became so rapid that a normal beat occurred exactly at the moment when the extra-systole would be expected: any rate faster than that was regular, while any slower rate, as shown when the effect of the atropine wore off, was of the bigeminal character. A bigeminal action was not necessarily constant and they would not always expect a constant bigeminal action in cases occurring after digitalis. It was not necessary, therefore, to assume that in these cases the digitalis caused an increase of excitability contrary to its usual action of decreasing excitability. A second type of irregularity after digitalis might be produced by the occurrence of isolated extra-systoles. That might, of course, be merely a consequence of reduction of rate, since with a rapid rhythm there was very little opportunity for the occurrence of extra-systoles. Another type of irregularity after digitalis had to do with the depression of quite a different property of the muscle—namely, conductivity. There was abundance of evidence that digitalis depressed conductivity in animals and Mackenzie had shown that the same action took place in human beings provided that conductivity was somewhat depressed before the drug was given. In some cases there might be an apparent improvement in conductivity after digitalis owing to the slower rate giving more time for its recovery. In view of the small doses that it was possible to administer it is not surprising that depression of conductivity by digitalis was only observed clinically in cases where there was already evidence of its being damaged. The effect of digitalis on contractility was more difficult to estimate. There was no doubt of the more efficient working of the heart when digitalis had been given in suitable cases. That was partly due to the mechanical advantage of the decreased dilatation brought about by increased tone and partly due to the fact that the slower rate allows a longer time for the contractility to recover. In animal experiments, however, it was clear that both an increase of tone and the administration of digitalis resulted in a diminution of contractility. That drug, too, often produced an alternating action of the heart which had been supposed to be the expression of damaged contractility. The evidence of depression of contractility by digitalis in the human heart seemed sufficiently clear and they could have no doubt of that action of digitalis from the results of animal experiments. Probably only those patients whose contractility was already depressed would show any further recognisable lowering with digitalis. The foregoing arguments afforded sufficient justification for affirming that tone played the same important rôle in the human heart as in the animal and that increase of tone had the effect of diminishing the other properties of the cardiac muscle—namely, contractility, excitability, and conductivity. That conclusion, too, was of considerable clinical importance. The recognition of loss of tone as the important factor in dilatation of the heart was a great advance, and they now found in addition that many of the phenomena associated with dilatation were directly due to that loss of tone. The dependence of the other properties on tone afforded a remarkable method of self-regulation in the heart, so that it was enabled to do just the amount of work which was required of it. Some light was also thrown on the obscure subject of the action of digitalis on the heart, though it could not be said that that question was completely answered. Part of the action of digitalis was evidently secondary to its influence on the muscle tone, but how much of the damage done to contractility, conductivity, and excitability came from increased tone and how much from stimulation of the vagus could not at present be estimated. The narrowing of the coronary vessels would probably also tend to depress the properties of the cardiac muscle to an extent that was incapable of exact appreciation. It was important to note that in the case cited the digitalis had greatly improved the patient's general condition as well as the general working of the circulation in spite of the grave depression of conductivity and the occasional dropping out of ventricular beats. Mackenzie's and Gibson's patients had also benefited from the drug, although contractility was so damaged that there was alternating action of the heart. Evidently the improvement resulted from the increase of tone and these facts received their simplest explanation in the conception of tone that he (Dr. Gossage) had advanced.

Dr. J. MACKENZIE said that the paper had helped him to understand why there was an increase in the rate of the heart's beat in cases where sudden dilatation had taken place.

Professor A. R. CUSHNY said that it was interesting to find Dr. Gossage going back to the view that the action of digitalis on the heart may be due to what was called its elasticity, which was very much the same thing as the tonicity described by Dr. Gossage.

Dr. A. MORISON said that in the discussion of the subject they could not eliminate the influence of the nervous system or that of the blood.

Dr. H. A. CALEY said that the value of the paper by Dr. Gossage consisted in the evidence which it contained that digitalis was indicated in cases of cardiac myasthenia with dilatation, and if digitalis failed to do good in such circumstances causes such as degeneration of the coronary arteries or actual degenerative changes in the myocardium itself must be considered.

Dr. LEES laid stress upon the importance of ascertaining the true size of the heart in cardiac conditions which he said could quite easily be done by careful percussion. The use of digitalis was not indicated in cases of dilated heart due to an acute toxic condition, but where the condition was chronic then digitalis was useful.

Dr. GOSSAGE replied and the meeting terminated.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

African Tick Fever.

A MEETING of this society was held on June 19th, Sir PATRICK MANSON, the President, being in the chair.

Dr. C. F. HARFORD read a paper on African Tick Fever with special reference to its clinical manifestation and its relation to relapsing fever of India and other parts of the world. He said that the question must be raised as to how far tick fever had existed, for instance, in such a territory as Uganda for many years past, and whether the increase was as rapid as it seemed, or whether the increase was chiefly apparent and was really due to the fact that it was not recognised before. One point was quite clear and that was that the systematic examination of the blood, which was now being carried out by many medical men in Africa, made it possible to diagnose many diseases with certainty in a way which was not possible before. The society had considered on various occasions the special characters of spirochæta Duttoni which was generally acknowledged to be the cause of African tick fever, and he would only venture to express his opinion that the organism belonged to the protozoa, and that whilst there, no doubt, were slight morphological differences between that parasite and the one usually known as spirochæta Obermeieri, yet those did not appear to be greater than, if as great as, the differences between various forms of malarial parasites. He took it as proved that the form of fever, which for the sake of convenience he referred to as tick fever, was conveyed by the tick ornithodorus moubata. He then considered the series of notes of 66 cases which had been most kindly supplied to him by Dr. A. R. Cook and Dr. J. H. Cook of the Church Missionary Society, Uganda. Of the 66 cases 39 were males and 27 females; and again, out of the total number 46 were adults and 20 were children. Of the total number 57 were cured and nine were fatal. Blood examination was recorded in 57 out of the 66 cases and spirochætæ were found in all of these except one. In one of the cases only one spirochæta was found after a prolonged search, but in others they appeared to have been fairly plentiful. In some cases where spirochætæ were said to be scanty it was clear that the case was one of a relapse and not of the primary paroxysm, and in some cases it was a case of a second attack of the disease. In the three cases which died within a few hours of admission it was noted in one case that the spirochætæ were "teeming," and in another "intense infection, three to four in a field." In a third they were "abundant." In others which died either on the first or second day after admission it was only noted that spirochætæ were found. As might be expected, a large number of the cases showed only single paroxysms. That was partly to be accounted for by the fact that the patients recovered after the first sufficiently to leave the hospital and did not come back a second time. In many cases, however, it was believed that the cases were second attacks which always seemed to be greatly modified. There was a great variation in the times intervening between the relapses, though it might be taken as a general rule that the first relapse came on after an interval of about seven or eight days, the later ones being more irregular in their time of occurrence. Dr. J. H. Cook noted that the number of relapses was variable, on an average perhaps four or five, but he had known as many as nine or ten sometimes. He stated that sometimes without pyrexia in the later relapses there occurred at the expected time when the relapse was due malaise, headache, or gastric upset. He said the usual interval was eight days and that corresponded with the usual period of incubation. In other cases it was even longer, but not often shorter except in cases of double infections. As regards the height of temperature, four cases reached 106° F. or above, 13 cases reached 105°-105·9°, 17 cases reached 104°-104·9°, and 13 cases reached 103°-103·9°. As regards other symptoms, rigor occurred in 21 cases. In 24 cases there was no rigor, whilst in the remaining cases the question of rigor was not referred to. It was noted that the spleen was enlarged in 35 cases and that there was no enlargement in 20 cases, and though it was probable that most of the patients had been liable to malaria, yet it seemed justifiable to regard enlargement of the spleen as a common symptom of the disease. Vomiting was noted as a prominent symptom in 30 cases and diarrhœa in nine cases, delirium being only referred to in six cases. From these figures it appeared that beyond the usual symptoms of fever there was often some gastro-intestinal disturbance but there were no other symptoms which could be regarded as pathognomonic of the disease. Miscarriage appeared almost always to take place in cases of pregnancy and two cases appeared among the cases given. Iritis was a frequent complication. It was usually plastic and very painful and lasted about five weeks, and the risk of adhesions was great. The tendency was to get absolutely well with careful treatment. There were three or four cases of serious irido-cyclitis from tick fever. The prognosis here, too, was hopeful and recovery of sight also perfect. Facial paralysis was a serious complication which he had noted in three cases. The prognosis was hopeful and duration as a rule was from six to eight weeks. But perhaps the most interesting of Dr. J. H. Cook's notes was his reference to the possible connexion between tick fever and blackwater fever. He had noted that in two cases. In the latter case no spirochætæ were found, though the case seemed to be one of tick fever. In neither of those cases was there at the time any sign of malarial infection. Dr. Cook raised the question whether it was possible that there might be any special relation between tick fever and black-water fever such as was usually traced between blackwater fever and malaria. On the other hand, Dr. Cook alluded to the suggestion made by Dr. L. W. Sambon that blackwater fever might be conveyed by the bite of ticks, and he suggested that possibly the same tick communicated parasites both of tick fever and of blackwater fever, if the latter fever could be said to be due to a distinct organism. He (Dr. Harford) was inclined to think that there might be many causes for the occurrence of blackwater fever. Malignant malarial infection seemed to be the primary cause, whilst many other circumstances, such as chill, the taking of an unusual dose of quinine in those especially susceptible to its action, might be accelerating causes, and it was possible that a paroxysm of tick fever might be the determining cause in those cases. Dr. J. H. Cook did not believe that immunity existed either naturally or acquired by attacks. He knew many people who had had two distinct attacks, though he remarked that second attacks were usually less severe and with fewer relapses than in the case of primary attacks. He (Dr. Harford) had hoped to have been able to institute a comparison between the relapsing fever of Africa and that of India and other parts of the world, but the amount of material which Dr. Cook had supplied to him had required so much arrangement that it had left little time to deal with other parts of the world. The charts which had been published by the Liverpool School of Tropical Medicine corresponded very closely with those furnished from Uganda and clearly described the same disease. He had no doubt himself that tick fever was practically identical with the relapsing fever of other parts. Differences there might be in the clinical features of the disease, as in the morphological characters of the parasite, but he hoped that they would dismiss the titles of tick fever or spirillum fever and call it relapsing fever.

Dr. L. W. **SAMBON** discussed the paper from an epidemiological point of view and put forward his views on the parasitology of the disease.

Dr. F. M. **SANDWITH**, speaking from his experience of relapsing fever in Egypt, remarked that in the African cases mentioned in the paper jaundice was only present in one case, whereas elsewhere jaundice was regarded as one of the important symptoms.

Dr. A. W. G. **BAGSHAWE** (Uganda) observed that slight jaundice was a fairly common symptom in tick fever.

Dr. A. **CASTELLANI** (Ceylon) said that he had used atoxyl and quinine cacodylate in the treatment of six cases.

Dr. G. C. **LOW** considered that the cases described in the paper as double infection were not due to the same parasite.

Mr. C. J. **BAKER** (Uganda) described the pulmonary symptoms which he had noticed in the disease and narrated how patients suffered from dyspnœa and had all the appearances of being affected with pneumonia.

Dr. L. **HILL** mentioned that relapsing fever was prevalent in Ireland for a short time and then disappeared entirely.

The **PRESIDENT** asked whether anything had been done in the way of introducing serum treatment for relapsing fever. By means of experiments on animals it had been found possible to abort and to prevent relapsing fever in animals.

After Dr. **HARFORD** had replied the meeting terminated.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Congenital Vaginal Cyst.—Rupture of Uterus.—Treatment of Puerperal Septicæmia.

A MEETING of this society was held at Liverpool on June 19th, Dr. A. J. **WALLACE** (Liverpool) being in the chair.

Dr. W. **BLAIR BELL** (Liverpool) related a case of Large Congenital Cyst of the Vagina occurring in a married woman, aged 21 years, who had been delivered without difficulty of a full-term child. The cyst was of the size of a cocoanut and lay between the uterus, bladder, and anterior vaginal wall. It was removed with some difficulty on account of its deep connexions.

Dr. W. E. **FOTHERGILL** (Manchester) communicated two cases of Abdominal Hysterectomy for Complete Rupture of the Uterus. The first case was that of a woman, aged 32 years, who was admitted to St. Mary's Hospital with a ruptured uterus produced during the performance of podalic version. She was very collapsed from hæmorrhage and on careful vaginal examination under anæsthesia a deep tear of the cervix extending high up on the right side was discovered. It was too inaccessible to be dealt with per vaginam and abdominal section showed the laceration to extend as high as the origin of the right Fallopian tube, involving the peritoneum. There was a considerable amount of blood in the abdomen. The entire uterus was removed and the patient made a good recovery. The second case occurred in a woman, aged 30 years, multipara, who was admitted to hospital after unsuccessful attempts had been made to deliver a brow presentation. The head of the child was found to be in utero, the trunk and limbs in the abdomen. Podalic version was first performed and the child was delivered with considerable difficulty, followed by the manual detachment of the placenta. An hour later abdominal hysterectomy was carried out. The lower uterine segment was very much bruised and a complete tear ran transversely, involving the right posterior aspect of the uterus. The patient made a satisfactory recovery.

Dr. A. KNYVETT GORDON (Monsall) read a paper on Some Problems suggested by a Series of cases of Puerperal Sepsis of Advanced Type. He confined his remarks to the curative treatment of severe cases only, based on an investigation of 250 cases treated in the Monsall Fever Hospital. He first of all dealt with the type of case where the patient is desperately ill, where the extent of septic absorption is great, either of toxins or organisms, and where the only obvious local signs are sub-involution and endometritis, with some abdominal distension. Half of these patients had streptococci in the circulating blood. Dr. Gordon drew attention to the two opposed schools of treatment: in the case of one reliance was placed solely in vaginal and uterine douching, avoiding anything of the nature of active interference with the interior of the uterus. He thought that it was very necessary to consider this opinion seriously, founded as it was on the teaching of Metchnikoff, that between the organism and the system was a wall of leucocytic infiltration the integrity of which must not be disturbed. The opposite school regarded the infected uterus just as a wound in any other situation, and would treat it accordingly—viz., by active disinfection. He maintained that in puerperal sepsis of the type which he had defined the granulation wall was useless, or as Sir William J. Sinclair had happily put it, had been scaled or breached. When he first began to treat these cases by douching alone, the mortality was 46 per cent. Since the employment of more active measures the mortality had fallen to 24 per cent., where it had remained for three years. It was his practice to scrape thoroughly the interior of the uterus with a large sharp curette, followed by the application of undiluted izal solution on swabs. In regard to pelvic cellulitis resulting from deep, infected tears of the cervix he suggested that incision of the inflamed area and drainage per vaginam should be adopted. He had never performed hysterectomy in the early stage of puerperal sepsis and only five times as a last resort, all unsuccessfully. His experience, therefore, of this procedure was too limited, but he failed to see how such a practice could be adopted successfully without removing a large number of uteri unnecessarily. A very important administrative problem was also considered. Where ought these cases to be treated? He thought that they should go to a fever hospital administered by a resident superintendent and that a gynæcologist who is not too busy to attend regularly should be attached to the staff. Care should be taken to select and to train the nurses, a certificate only being awarded after at least two years' satisfactory work in the wards, coupled with attendance at systematic and clinical lectures, the theoretical knowledge being also tested by examination.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on June 19th, Dr. W. J. Tyson (Folkestone), the President, being in the chair.—Eight candidates were elected, making a total roll of more than 400. After an address from Dr. James F. Goodhart the President said that he wished the profession generally would more thoroughly understand the work that the society was doing for the promotion and extension of the knowledge of all health resorts, English and foreign. The efficient study of health resorts, from a balneological and climatological standpoint, required much time and experience. The study took in the whole range of medicine, and it required well-trained and thoughtful physicians to put into practice all the advantages that were possible in our well-equipped spas and marine towns. The advising of the choice of a health resort should be in the hands of those who know intelligently the various qualities and adaptabilities of the many spas. To send patients away, often to a distance or abroad, without very carefully considering all the conditions of the patient and the place recommended seemed to be unscientific treatment; and yet this method was not infrequently followed. The society was ever willing to communicate its special knowledge to those who required it and, he trusted, would in the future be looked upon more and more in the light of a consultant in its own special department.—Dr. Leonard Williams remarked that it was no idle boast to say that before the inception of this society the study of balneology and climatology did not exist in this country. The society had endeavoured and had succeeded in lifting these therapeutic measures out of the mire of empiricism in which they had too long wallowed into the domain of rational, straightforward, scientific branches of professional work. The papers which had been read before the Fellows and the articles which had appeared in the *Journal of Balneology and Climatology* during the 12 years of existence of the society were real contributions to the elucidation of the many problems which surrounded the therapeutics of baths and climates. These therapeutic measures were destined in the future to play a very large part in the treatment of chronic disease and they had deserved well of their professional brethren in placing at their disposal the results of the work which was being done in these matters.—Mr. Ernest Solly (Harrogate) was elected President of the society for the coming year, with Dr. Septimus P. Sunderland and Dr. F. A. de T. Mouillot as secretaries.—Sir Thomas Barlow and Mr. George Eastes were entertained at the annual dinner of the society.

Reviews and Notices of Books.

School Hygiene. By ROBERT A. LYSTER, M.B., Ch.B. Birm., B.Sc. Lond., D.P.H., B.Sc. Public Health. London: W. B. Clive. 1908. Pp. 360. Price 3s. 6d.

ONE of the most important movements of recent times from a national point of view is that which has had for its object the application of sound principles to secure improvements in the nurture and education of children. Statesmen, medical practitioners, and educationists have combined to work for this object and many much-needed reforms have resulted. The subject of school hygiene is obviously one in which it is essential that the teachers should be thoroughly grounded in order that they may be enabled to adapt their instruction to the capacities and needs of the children and also be able to give elementary instruction in personal hygiene. The subject is, moreover, one which demands at any rate an elementary knowledge of many physiological and medical problems as well as of sanitation and the general laws of health. A text-book intended for teachers must therefore afford this information in language stripped as far as possible of abstruse technicalities and in simple explanatory style. Dr. Lyster's book is calculated to supply the necessary information. It is clearly written, takes nothing for granted, and yet is never diffuse or irrelevant. It is well illustrated by many figures, diagrams, and reproductions of photographs. It is obviously the outcome of a practical knowledge of the subject and of experience in lecturing to teachers.

The book is divided into three parts. The first of these is devoted to the school building and deals with the questions of site, construction and arrangement of the building, lighting, heating, and ventilation. The sanitary arrangements advisable and necessary for schools are considered in detail and the various methods of effecting them are discussed. The second part deals with physical training and the laws of health. The various forms of school fittings are described. Different varieties of desks are figured and criticised. The bad effects of many of the ordinary forms are clearly pointed out. It is admitted that the problem of a universally satisfactory desk has not yet been solved but that certain of those now in use, especially those which are adjustable, are useful and no likely to cause any harmful results if the scholars are no kept seated for long periods at a time. Postures in regard t school work are considered, especially as to reading writing, standing, and receiving instruction. A useful section is devoted to breathing exercises and their importance receives full recognition. The eyes, ears, throat, and nose are considered in connexion with school work and the prevention of injuries to the eyes at school is considered. In a chapter on personal hygiene the clothing and feeding of children are discussed and the amount of sleep advisable at different ages is set forth. Personal cleanliness and the care of the hair and of the teeth are also discussed, and useful recommendations are given. The third part of the book is devoted to medical supervision and school medicine and surgery. Some useful general information is supplied in regard to the mentally defective children and to common ailments and diseases. Epidemic diseases come in for special description, and the closing of schools as a result of outbreaks of such diseases is discussed, together with the measures necessary for disinfection.

Dr. Lyster's book affords a great deal of information within very convenient compass and should be a useful small manual for teachers and for others interested in school hygiene.

The Borderland of Epilepsy. By Sir WILLIAM GOWERS, M.D. Lond., F.R.S. London: J. and A. Churchill. 1907. Pp. 118. Price 4*s.* 6*d.* net.

FOR the most part the substance of this work has appeared, reported as lectures, in the medical journals.

The first chapter opens with a discussion on the mechanism of unconsciousness. In certain cases there may be a diminution of the due supply of nutrition to the brain, in others a diminution of intracranial pressure, or again a discontinuity of conduction at the junction of the neurons. Cases are related which suggest the possibility of some sort of connexion between syncope and epilepsy and which present strong evidence of repeated cardiac syncope disposing to epilepsy. Diagnosis between syncope and minor epilepsy is sometimes difficult, but sudden, intense, and brief sleepiness with dusky complexion is not met with in syncope and is significant of epilepsy. Cardiac auræ in epilepsy are particularly perplexing and may easily mislead the physician. In syncope the more distinctive symptoms consist in the gradually on-coming of pallor and faintness with failure of sight and gradually approaching unconsciousness. No rigidity occurs and recovery is with a slowly lessening sense of faintness and without mental confusion.

The second chapter is devoted to a description of "vagal attacks," this being a useful designation for prolonged seizures the symptoms of which consist chiefly in disturbance of some of the functions of the pneumogastric nerve. On the sensory side there are feelings of gastric, respiratory, and cardiac discomfort. There are also slight mental change, coldness of the extremities, with, perhaps, some sensory impairment and often slight tetanoid spasm. The author suggests that such attacks may be minor epileptic seizures extended in time. In these states attention to the general health is of the utmost importance. Bromides seem to exert little direct influence. Where vaso-motor spasm forms part of the attack nitro-glycerine is of service. Chapters III. and IV. contain an account of aural vertigo and of its differentiation from minor epilepsy, together with the histories of a few patients which suggest that the relationship of the two diseases may sometimes be closer than a mere coincidence. The process in vertigo may provisionally be conceived "as an upward 'discharge' from the lower centres, acting on the cerebral cortex and inducing in it motor and sensory activity by which consciousness arises of the features of the attack." Chapter V. deals with the relations of migraine and epilepsy. There are an undoubted alternation and co-existence of these maladies, similarities in their premonitory disturbances, and there exist instances in which migraine has appeared to develop into epilepsy, yet the differences are definite and distinctive. The warning of the epileptic fit occurs immediately before the seizure; that of migraine lasts for from 10 to 30 minutes and has very special characteristic features. Clonic spasm is unknown in migraine, while its pain is distinctive. In Chapter VI. there is an account of some sleep symptoms, such as night terrors, somnambulism, and narcolepsy.

This small work is of the utmost interest and is written in the well-known fascinating style of the author. We venture to express a hope that it may be the prelude to a larger work on the same subject.

Cancer; Relief of Pain and Possible Cure. By SKENE KEITH, M.B. Edin., F.R.C.S. Edin.; and GEORGE E. KEITH, M.B., C.M. Edin. London: Adam and Charles Black. 1908. Pp. 155. Price 2*s.* 6*d.* net.

IN reading this work we have been struck with the very candid attitude of the authors. They tell us all that they know about the method of treatment which they have employed, and they give details of a large number of cases which they have treated, and in no way do they claim that they have discovered a cure for cancer; they merely say that they have found that the use of the injections which they employ has been followed in nearly all cases by marked improvement in the amount of pain, by diminution, and in a few, a very few cases, by disappearance, of the growth. The injections employed consisted of iodipin, arseniate of iron, cacodylate of iron, and cinnamate of sodium. It may well be worth while to try such methods as this in cases unsuitable for operation or where the patients decline to submit to operative measures. The attitude adopted by many that if operation is impossible nothing can be done, appears to us to be unwise. It is no doubt due to the hasty and extravagant claims put forward by many. The authors of this book endeavour to state only facts, and the introduction on the difficulties of treating cancer is very judicious. It is interesting to note that trypsin was extensively employed by the authors for a year and they came to the conclusion that it was not only useless but also dangerous.

Les Pseudo-Bacilles Acido-Résistants. Critique des Méthodes de Coloration du Bacille Tuberculeux. Revision du Groupe des Bacilles dits Acido-Résistants. Par le Dr. ANDRÉ PHILIBERT, Interne Lauréat des Hôpitaux de Paris (Médaille d'Or Médecine, 1907), &c. Paris: G. Steinheil. 1908. Pp. 143. Price fr. 4.

THE differentiation of the various micro-organisms which belong to the rapidly increasing class of acid-fast bacilli is a matter of considerable importance whether it be regarded from the point of view of the clinician or from that of the medical officer of health. This work from the bacteriological laboratory of the Faculty of Medicine of Paris by Dr. Philibert is therefore of interest. In the past there has been some laxity in the use of the term "acid-fast"; sometimes this expression has been held to embrace the further quality of resistance to decolourisation by absolute alcohol and sometimes it was considered apart from this latter quality. By rigidly defining the method of staining and measuring the amount of resistance to decolourisation by acids and alcohol it is possible to arrive at results of clinical value and to avoid many of the pitfalls which have arisen in great part from the use of methods which have been largely modified from those originally proposed by Koch and Ehrlich for the demonstration of the tubercle bacillus. The bacillus tuberculosis if stained with hot carbol-fuchsin for ten minutes will withstand decolourisation by nitric acid (1 to 3) for two minutes, followed by the action of absolute alcohol for from three to five minutes, and does not become [illegible] h a simple counterstain. This method may, according to Dr. Philibert, be trusted to distinguish between the bacillus tuberculosis and the large number of morphologically similar, but not so resistant, organisms which have been found in the smegma, urine, serous effusions, blood, sputum, sebaceous material, cerumen, pus, and occasionally in the organs of the corpse. These less resistant organisms the author groups as accidentally acid-fast in contradistinction to the tubercle bacillus which he considers to be hereditarily acid-fast. To the clinician these results are satisfactory. Unfortunately, the hereditarily acid-fast group includes the bacillus lepræ and the bacilli found in butter, fodder grass, dung, and so on, which are so liable to appear in milk and milk products and give rise to errors which if not embarrassing to the physician are so to the medical officer of health. No staining method for the differentiation of members of this group, which are held to be closely related to one another, is given.

The book gives a very complete account of the various accidentally acid-fast bacilli which have been described and the supposed cause of the acid-fast character is discussed. The author concludes that the resistance to decolourisation is not due to fat, fatty acids, or cholesterin but he fails to establish the true cause. He does not deal with the question of the occurrence of forms of the tubercle bacillus which are not acid-fast. There is a good bibliography but, as is unfortunately so common in French works, no index.

The Production and Handling of Clean Milk. By KENELM WINSLOW, M.D.V., B.A.S. (Harv.); formerly Instructor in Bussey Agricultural Institute and Assistant Professor in the Veterinary School of Harvard University; Chairman of the Committee on Milk of the Washington State Medical Association, &c. London: Baillière, Tindall, and Cox; New York: William R. Jenkins Co. 1908. Pp. 207. Price 10*s.* 6*d.* net.

So far as the production, transportation, and distribution of milk are concerned, it may be said that, on the whole, the methods in force in the United States are superior to those which are adopted in this country. Therefore a book dealing with the subject written by an acknowledged American authority may well contain matters of instruction and interest for English readers. Such a work is that by Dr. Winslow who treats the milk problem from various standpoints. His main object, however, is to arouse the public to the dangers of contaminated milk and to lay stress on the fact that it is impossible to produce and to sell clean milk except at a considerably increased price. Many parts of the book deal with points which have been discussed so thoroughly already that it would be superfluous to summarise them. Of the chapters dealing with matters of less common interest we may mention that on "feeding for milk," in which Dr. Winslow points out that by suitable food and by judicious breeding it has been found possible to evolve an animal giving milk 1 per cent. richer than that common to its breed. The housing and care of cows are discussed in detail, while to the handling of milk and cream, as befits the importance of the subject, is devoted the longest chapter of the book. The numerous devices and inventions in use in the United States for carrying, cooling, straining, separating, and sterilising milk are explained adequately, and it is mentioned that if paper bottles came into use much of the trouble and expense now entailed by bottling milk would be done away. Some space is given to a consideration of the cost of producing and distributing clean milk, but as conditions differ somewhat widely in the United States and in this country the figures quoted will hardly apply to Great Britain. As for milk distribution, the methods in vogue in America are set forth, but again when this matter is considered the fact must be borne in mind that in American cities bottles are very largely used in the distribution of milk and that ice or some cooling apparatus is almost invariably employed both in transportation and in distribution. Milk inspection and the various modes of testing milk are treated at some length. In the appendix is to be found a considerable amount of valuable information regarding dairy cows and their management. The portion referring to barns and milk rooms is particularly good. Dr. Winslow writes favourably of milking machines and quotes the opinion of a well-known American dairyman to the effect that in time these machines will supersede milking by hand.

The book ends with the outline of a scheme for the control, supervision, and inspection of a city milk-supply, which, though intended for an American town, will well repay the attention of English readers. A special feature of Dr. Winslow's book is the number and excellence of its illustrations.

LIBRARY TABLE.

Clinical Lectures on the Surgical Diseases of the Urinary Organs. By P. J. FREYER, M.A., M.D., M.Ch. R.U.I., Surgeon to King Edward VII.'s Hospital for Officers and to St. Peter's Hospital; Consulting Surgeon to Queen Alexandra's Military Hospital; late Examiner in Surgery at the Durham University; Lieutenant-Colonel Indian Medical Service (retired). London: Baillière, Tindall, and Cox. 1908. Pp. 425. Price 12*s.* 6*d.* net.—In these clinical studies the greater part of the surgery of the urinary organs of the male is expounded. Many of those who heard them delivered at the Medical Graduates' College and at St. Peter's Hospital will be glad to have them in volume form. The most important chapters are those dealing with the enucleation of hypertrophied prostates. Whether Mr. Freyer was or was not the inventor of the operation we need not now discuss; but it is at least indisputable that to Mr. Freyer is due the present popularity of the enucleation of the prostate, and it is useful to have this latest exposition of his views. The lectures on the removal of stone from the bladder are also good. The book is well illustrated.

Pelvic Inflammations in the Female. By THOMAS WILSON, M.D. Lond., M.Ch. Birm., F.R.C.S. Eng., Obstetric Officer to the General Hospital, Birmingham. Bristol: John Wright and Co. 1907. Pp. 36. Price 3*s.* 6*d.* net.—Dr. Thomas Wilson chose the very important and practical subject of Pelvic Inflammations in the Female for the Ingleby lectures last year and has since published them in book form. His observations are based upon some 1092 cases seen as out-patients, a large number of post-mortem examinations, and a series of 307 cases which have required treatment in bed or operation. As a result of his study of this large number of cases Dr. Wilson has been able to bring together a very important series of conclusions. One of the most interesting questions in the treatment of acute pelvic inflammations due to puerperal infection is that of operative interference in these cases. The author unreservedly condemns the various radical operations which from time to time have been recommended. His own experience of removal of the uterine appendages with or without the uterus in six cases of recent puerperal septic and pyæmic conditions has not been such as to encourage him to add to it; for in none of the patients was death prevented, while in at least three it was hastened. In the case of complete disorganisation of the appendages the removal of the uterus by total abdominal hysterectomy is advised, and this operation is preferred to supravaginal amputation because of the lessened likelihood of necrosis of the tissues of the stump with the danger of infection of the cut surfaces and pus formation, and further because the removal of the cervix permits free drainage to be provided into the vagina where this is considered necessary. These lectures which contain a large amount of information collected by a careful and scientific observer are of much interest and should prove of value to all those concerned in the treatment of these common affections.

Catalogue of Lewis's Medical and Scientific Circulating Library, Including a Classified Index of Subjects. New edition. Revised to the end of 1907. Pp. 500. Price to subscribers 2*s.* net; to non-subscribers, 5*s.* net.—This book contains upwards of 9000 titles, with the year of publication and price of each book, and also a "subjects and authors" index containing 10,000 references, and will be found useful as a work of reference quite apart from Mr. Lewis's library. The work has been carefully done. Here and there, as must happen in a book compounded of special titles and proper names, a slip occurs, but in most instances where we tested a reference we found it correct and we can imagine that such a list of scientific books might be very valuable to many people. The fact that the library is charitably inclusive, so that in the list a good deal of obsolete and unimportant literature can be found, adds to the utility of the work, for it is exactly the obscure book which is hard to find.

Alimentation et Hygiène des Enfants. Par J. COMBY, Médecin de l'Hôpital des Enfants Malades. Third edition. Paris: Vigot Frères. 1908. Pp. xii.-532. Price 5 francs. —The aims which inspired Dr. Comby to produce this work were in his own words "to write on a new plan a little manual of the hygiene of infancy which everybody can consult with profit. It is addressed not only to mothers of families and those persons engaged in looking after children but also to medical men who do not always pay sufficient attention to the small details of the proper rearing of children." In furtherance of this plan the book is cast in dictionary form, so that a mother anxious for instruction upon "feeding, nurses, clothes, games, baths, schools," and so on, can turn up the necessary article easily without having to hunt it out amongst a mass of confusing information. In a work of this nature, with a double appeal to the public and the medical profession, there is an obvious danger of falling between two stools, but the author seems to us to have succeeded reasonably in his purpose. The section dealing with nourishment is the most important in the book and has been done with care and knowledge. We note a small slip in revision on page 80, where it is stated that "Budin donne également le lait pur," and so on—a sentence which unhappily should run, "Budin a donné." The language is clear and avoids all needless technicalities. There are some useful remarks upon education which deal with older children and a section on infant protection which proves that France is well aware of her responsibilities in that respect, as well she need be. The book deserves success.

The Vermiform Appendix and its Diseases. By DUNCAN MACARTNEY, M.A. Edin., M.D. Glasg., Surgeon to the Glasgow Cancer Hospital; Senior Assistant Surgeon to the Western Infirmary of Glasgow; late Examiner in Surgery to the University of St. Andrews. Glasgow: James Maclehose and Sons. 1908. Pp. 104. Price 3*s.* 6*d.* net.—The literature of the surgery of the appendix is so vast, and most of the works on the subject are so great, that it should prove convenient to many to have available a brief account of the subject. Dr. Macartney's book is on a very moderate scale; it deals very fairly with most of the diseases of the appendix but especially with appendicitis. The author is in favour of operating at once on every case of appendicitis; this practice, he tells us, follows logically from the fact that we have no certain knowledge of the condition of the appendix by the time that appendicitis has declared itself. This immediate operation in all cases does not commend itself to most surgeons and we see no likelihood of the general adoption of the practice. Dr. Macartney prefers Battle's incision and we agree with him that it is very good and simple and that it is very unlikely to be followed by a ventral hernia.

JOURNALS AND MAGAZINES.

Transactions of the American Otological Society. Fourteenth Annual Meeting. New Bedford, Massachusetts: Mercury Publishing Company. 1907.—Amongst the more important contributions to this volume are a series of papers on the Mastoid Operation, by Dr. William Bryant, Dr. E. A. Crockett, and Dr. James McKernon; a paper on Otitic Brain Abscess, by Dr. Dench; an Argument for Preliminary Ligation of the Internal Jugular Vein in the Treatment of Lateral Sinus Thrombosis, by Dr. Reich; a Case of Bilateral Thrombosis of the Sigmoid Sinus, with Recovery, by Dr. Grüning; Anatomical Considerations bearing on the Problem of Bone Perception, by Dr. Shambaugh; and a Case of Fatal Hæmorrhage from the Jugular Vein in Suppurative Otitis Media, by Dr. Jack and Dr. Verhoeff. All the papers in this volume are well up to the standard of excellence usually found in the work of this well-known society.

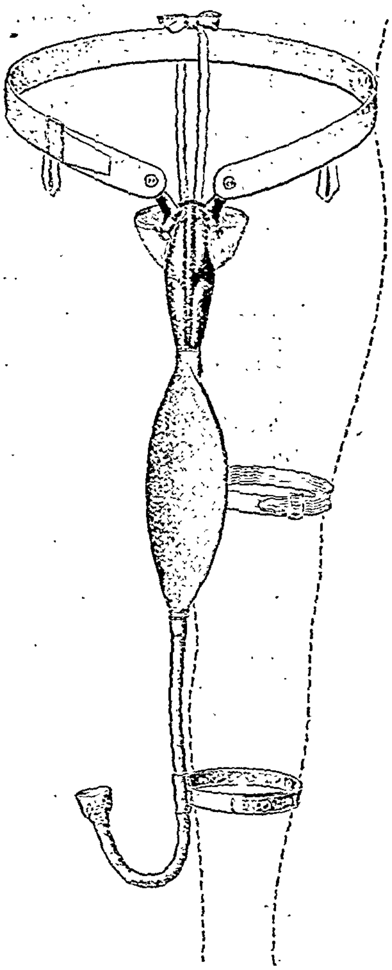
Zeitschrift für Laryngologie, Rhinologie, und ihre Grenzgebiete (Journal of Laryngology, Rhinology, and Allied Subjects). Würzburg: A. Stuber. 1908. Price 24 marks per annum.—This number contains the following articles:— Morphology and Terminology of the Middle Meatus, by Professor Heymann and Dr. Ritter. Angiomata of the Mouth, Naso-pharynx, and Larynx, by Dr. Voigt; this article is illustrated with a coloured plate, showing angiomata of the fauces and the larynx. Laryngeal Affections and Syringomyelia, by Dr. Iwanoff. The So-called Laryngitis Nodulosa, by Dr. Gerber. A Case of Congenital Air Cyst of the Larynx in a 16-day old Child, by Professor Kan. Congenital Membranous Webs in the Larynx, by Dr. Hamsberg. Amputation of the Epiglottis for Tuberculous Laryngitis, by Dr. Möller. Importance of Œsophagoscopy for the Diagnosis of Impacted Foreign Bodies, by Professor Starck. Neglect of an Important Operation for the Verification of Diagnosis, by Dr. Goris. Disturbances of Speech and Rhino-Laryngology, by Dr. Gutzmann. There is also a brief abstract of current literature followed by an abstract of meetings of societies.

Journal of Laryngology, Otology, and Rhinology for April and May.—The April number contains a report of several societies, with some reviews. The May number contains a brief obituary notice of Professor Schrötter and a paper entitled Contributions to the Surgical Treatment of Laryngeal Stenosis by Dr. E. von Navratil, with a Note on the Examination of the Nose by Dr. Mackenzie.

New Inventions.

A NEW PORTABLE URINAL.

WE have received from Messrs. Ellis, Son, and Paramore of Sheffield a sample of a urinal which they have recently designed for a customer, and as he has expressed high praise of its advantages over the style of urinal which he had been wearing previously they propose to put the instrument on the market. We have had trial made of the apparatus and think that it will be found to possess the advantages claimed for it. One innovation brought out by the illustration is that the hole at the top is so arranged that when the urinal is on the patient the instrument is very close fitting and there is no bulging outwards of the clothes, which is undoubtedly an unæsthetic feature of many portable urinals. The tubing at the bottom of the bag which passes down the leg is provided with a stopcock at the bottom so that the wearer may empty the vessel more conveniently than by lifting the bag from its position. This tubing is provided with a rubber leg band, keeping the pipe well under control when walking.



The urinal has been of course designed for both night and day use, but those who have to wear such apparatus know well that it is in the day-time that their inconveniences mostly arise. At night, in the privacy of their chambers, no further concealment is necessary, and it is not hard to devise an effective and cleanly form of portable urinal, but by day this is not so easy, and patients will be glad to provide themselves with an apparatus which will allow them to travel comfortably while keeping their infirmity hidden from the public gaze.

ILFORD X RAY PLATES.

WE have received further samples of x ray plates from Messrs. Ilford, Limited, of Ilford, London, E. We have subjected these to careful test in clinical work and are pleased to note that while retaining all the good qualities of which we spoke in a previous notice they have added that of greater rapidity to their other virtues. To attain this rapidity, however, it is necessary to use the developing formula given on the box, thus differing somewhat from ordinary photographic plates which give practically identical results with any standard developing solution. In our opinion the Ilford x ray plates are the best and the most rapid at present obtainable, and we may say that this opinion is not based on the use of these few samples but upon the employment of some thousands of these plates. Other things remaining the same, short exposures are the great desideratum in radiography, and so long as the modern x ray tube remains substantially in its present form it is to the photographic plate we must look to attain this end. On this account we hope that Messrs. Ilford, Limited, will not be content to rest on their oars but will strive, by means of further experiment and research, to obtain a still higher degree of rapidity. The makers are prepared to supply their emulsion coated on celluloid films of any size, such as are used in instantaneous radiography, on receiving a few days' notice.

Looking Back.

FROM

THE LANCET, *SATURDAY*, July 3rd, 1830.

THE sufferings of GEORGE the FOURTH have terminated; his Majesty expired on Saturday morning last, soon after three o'clock. The sad intelligence was communicated on the same day to the Lord Mayor, in the following curious note from Sir Robert Peel:—

> "Whitehall, June 26th, 1830.
>
> "My Lord,—It is my most painful duty to inform you, that it has pleased Almighty God to release His Majesty from his sufferings. His Majesty died at about a quarter past three o'clock this morning.—I have the honour to be, my Lord, your lordship's obedient and faithful servant,
>
> "ROBERT PEEL."

The circumstances which have attended his Majesty's lamented illness, have been of so mysterious and extraordinary a character, the deception practised upon the public has been of so scandalous a nature, and the bulletins issued by the medical attendants have been so justly and severely reprobated, that we think it right to collect the whole of these documents, and place them in one view, before the eyes of this insulted community.

"Windsor Castle, April 15, 1830.

"We regret to state that the King has had a bilious attack, accompanied by an embarrassment in breathing. His Majesty, although free from fever, is languid and weak."

"April 19.—His Majesty continues to suffer occasionally from attacks of embarrassment in his breathing."

"April 22.—The King is better."

"April 24.—His Majesty has passed two good nights, and continues better."

"April 26, 9 o'clock A.M.—The state of the King's health continues much the same. His Majesty has had a good night."

"April 27, half past 10 A.M.—The King continued as well as his Majesty has been for several days past until this morning, when his Majesty experienced a return of the embarrassment of his breathing. His Majesty is now again better."

"April 28, 11 o'clock A.M.—The King has suffered less from the attacks of embarrassment in his breathing since our report of yesterday, and his Majesty has passed a good night."

"April 29.—The King continues much in the same state, with occasional embarrassment in his Majesty's breathing."

"April 30.—The King had several hours of refreshing sleep last night. His Majesty's symptoms are somewhat alleviated."

[Here follow daily bulletins from May 1st to June 19th, a period of seven weeks, which we have not the space to transcribe in our issue of July 4th, 1908, but proceed to transcribe the bulletins of the last seven days of the King's illness.]

"June 20.—The King's rest has been interrupted by cough, with expectoration during the night. His Majesty complains less, however, this morning."

"June 21.—The King's rest has again been broken by the cough and expectoration. His Majesty feels languid this morning."

"June 22.—The King has passed a good night. His Majesty's cough and expectoration continue."

"June 23.—The King is still troubled by his cough, but it has not interrupted his rest; and his Majesty awoke refreshed this morning."

"June 24.—The King's cough continues with considerable expectoration. His Majesty has slept at intervals in the night, but complains of great languor to-day."

"June 25.—The King has slept at intervals during the night, the cough and expectoration continue much the same, but his Majesty is more languid and weak."

"June 26.—It has pleased Almighty God to take from this world the King's most excellent Majesty. The King expired at a quarter past three o'clock this morning without pain."

[Here follow eight columns of observations and the official report of the morbid appearances which were observed at the post-mortem examination of the body of the King, signed by Sir Astley Paston Cooper.]

THE LANCET.

LONDON: SATURDAY, JULY 4, 1908.

Some Considerations as to the Metropolitan Aspects of the Housing Question.

THE discussion of the housing problem is becoming a sort of popular pastime and everyone, whether he has studied the problem or not, appears to have a panacea for it; some have several panaceas, as has been seen recently during the useful debates which have taken place at the Pan-Anglican Congress. The problem of housing some six millions of persons in such a fashion that each shall have a minimum of cubic space, of light, of relatively fresh air, and last, but in no sense least, of sex separation and privacy, ought not in the present temper of the public to be an insoluble one; indeed, it would seem that in some sort of sub-conscious fashion factors are at work which will eventually lead to the problem solving itself. But evolution on these lines will be halting, uncertain, and wasteful, and most of the adults upon the surface of this planet now will have sunk beneath it before much is accomplished. Still, it must be recognised that the flowing tide is with the housing reformer and that the growing desire for physical well-being, the limitation of the hours of labour, the development of electric traction, cheap fares, high London rates, and such like are all making for that residential exodus from the metropolis which is likely ere long to call for the application of the provisions of Mr. BURNS's Town-planning Bill in the counties immediately around London. But the housing of the London poor is by no means as bad as those who have seen nothing else would lead us to suppose. If a foreigner desired to see English housing at its worst he would not be shown the East-End of London but the slums of some of our provincial cities wherein is to be found row upon row of back-to-back houses in narrow, airless, lightless alleys, and where, in addition, he could study all the drawbacks of the conservancy method of excrement disposal. Or he might be taken to some of the mining districts of Durham or to famous Whitehaven to see the conditions which the abuses of building by-laws allowed to come into existence.

In so far as London is concerned, although we have made, and are making, progress, there is obviously much still to be done, and in an interesting report recently presented to he executive committee of the Mansion House Council on the Dwellings of the Poor by Dr. A. H. HOGARTH, its medical officer, and Mr. W. F. CRAIES, its architect, certain aspects of the problem are dealt with which are worthy of consideration. These gentlemen discuss the subject in some detail nd much of the material which they have brought together will be useful to other students of the problem. The inner, middle, and outer zones of the areas embraced by London proper and its surrounding districts as far out as Croydon on the south and Enfield on the north are dealt with separately, a map illustrating the several zones having been reproduced from the London County Council report on New Working-class Accommodation. As regards the inner zone, which comprises such districts as Bermondsey, Westminster, and Stepney, Dr. HOGARTH and Mr. CRAIES do not think that any extensive building schemes are, having regard to the cost of land, practicable, but they suggest that with a view of diminishing the overcrowding of persons in houses empty dwellings should be taken over, rendered habitable, and let in the form of tenements to families having at least two children at a weekly rental of not more than 2*s.* per room. It is contemplated that in this fashion it would be found possible to rehouse some of those persons now inhabiting insanitary houses and underground dwellings. Similarly with regard to the middle zone the writers deprecate any fresh building operations on a large scale, but they think that if any building is undertaken it should be mainly for the old-established poverty of Deptford, Greenwich, and Woolwich. For the rest they consider that the adaptation of empty houses in the sense suggested above, together with some redistribution of the existing population over the outer zone where good travelling facilities exist would be the best lines of attack. As regards the outer zone there would, they think, be much less difficulty in promoting new buildings, although at the present time the supply of buildings is in excess of the demand. The chief point in this outer zone is that future building should be carried out on some town-planning lines; that there should be a traffic board to arrange for travelling facilities and a committee to suggest schemes and generally to coördinate the various forces, organisations, and persons interested in this matter. What may perhaps be regarded as the special feature of the joint report is the suggestion, made, we believe, by Dr. J. F. J. SYKES some years ago in his Milroy lectures on the housing question, for the adaptation of existing empty houses into what would be technically regarded as houses let in lodgings. Dr. HOGARTH and his colleague show that schemes of this nature have been made financially profitable, while at the same time there is a distinct social and hygienic advance, not only in the dwellers in these tenements but by their influence upon the surrounding population. They also advocate improvement by the personal supervision of slum dwellers; indeed, all along the line they seem to contemplate, unconsciously perhaps, some sort of public-spirited policy on the part of the better classes as takes shape in Germany under the name of the Elberfeld system. Although possibly the proposals made in the report before us will not carry us a very long distance they are well worthy of consideration and, above all, of trial, and we quite agree with Dr. HOGARTH and Mr. CRAIES in advocating more coöperation between all existing organisations, municipal and philanthropic, as also in a proposal that there shall be a systematic development of new traffic routes and methods.

A much more drastic and direct proposal as regards the housing of London's population is made by Mr. F. B. BEHR in the June number of the *National Review*. In his opinion it is necessary in order to commence in an economical and thorough fashion to create fresh centres in places some 20 miles from London where land is relatively cheap and, recognising that in these circumstances existing modes of transit are useless if the first principle of new housing—that the worker shall not be more than an hour's journey from his work—is to be observed, he proceeds to develop new lines upon the Behr high-speed mono-rail system, by means of which a speed of 100 miles an hour can be attained without danger. The scheme is briefly this. There are three classes of people to be considered—day labourers, skilled workers, and clerks, groups which do not readily mix with one another. Mr. BEHR considers that by the removal of the second and third groups more room will be left for the first—the day labourers—whose circumstances of employment and remuneration necessitate their living near their work. Land is to be acquired at two centres: one 18 miles and the other 20 miles from London; in the first centre are to live the skilled workers, and in the second centre the clerks. Between 6 and 8 A.M. trains will run every two minutes from the 18-mile centre, and between 8 and 10 o'clock every two minutes from the 20-mile centre, there being another four hours of rapid train service to bring the people home in the evening. Each centre is to have a population, at first, of about 27,000, and to be arranged upon a definite plan with not more than 12 houses to the acre, and the cost of the whole undertaking has been worked out by Mr. BEHR in a fashion to yield well over 4 per cent. interest. He evidently thinks that philanthropy may reasonably be called upon to provide this capital, and, indeed, we rather gather that he has visions of a possible Government loan at some 3 per cent. interest. The proposal is by no means a visionary one and obviously the whole question of the population of London sleeping much beyond its present confines is merely a matter of rapidity and cheapness of transit. In the old coaching days the season ticket limits of to-day would have been impracticable, and if the economical aspects of the problem are to be guarded adequately some bold stroke, such as is here contemplated, is absolutely necessary. Some, however, will be inclined to ask, why not remove the industries from London as well, but this opens up a larger issue than we can conveniently deal with in this article.

First Aid.

IN THE LANCET of June 27th, p. 1857, reference was made to the successful efforts of the Viennese Street Ambulance Corps to meet the demand upon its services due to the recent jubilee pageant at Vienna. And now the serious and systematic manner in which ambulance service is being approached on the Continent is set before us in a volume containing a formal record of the first International First Aid and Life-saving Congress which was held during the early part of the summer at Frankfort-on-Main, embodied in the form of brief synopses of reports and papers laid before the Congress. Perusal of this volume arouses a feeling of admiration for the trouble which must have been taken by all concerned in order to insure a satisfactory exchange of opinions and experiences upon so important a subject and one of regret that England should not be represented in it by a larger number of useful papers on the important topics treated, such as those dealt with by three of our own countrymen whose names we observe. These are Mr. J. W. CROSTON who discussed the organisation and training necessary in order to enable railway companies to cope with their own needs for ambulance service and those of the country, whether in peace or war; Mr. S. OSBORN who took for his subject First-aid in London and the work of the St. John Ambulance Association; and Mr. HORACE FOLKER who gave information as to the work of the ambulance department of the National Fire Brigade Union, of which he is a vice-president. All these are important topics, for the study of which there is ample opportunity in this country, and we must express the hope that the inevitable difficulties surrounding attendance abroad on such an occasion may be overcome and that English experts may be found to come forward in a larger proportion than 3 to 77 of other nations, should the congress be repeated.

In considering the subjects discussed at the congress in question by foreigners of all nations we note that many of these would probably have been interested by an exposition of the methods adopted in England for the removal and isolation of cases of infectious disease. These with us are so completely under the control of legally constituted sanitary authorities that reference to them in pages chiefly devoted to the organisation of more or less voluntary ambulance work seems out of place. With regard to what may be called ambulance work pure and simple, arising, as it does, largely out of what we know as "accidents" in ordinary life or in the pursuit of some trade or industry, the field of discussion is a very large one and there should be room for a correspondingly important contribution of fact and opinion from our large labour centres and crowded cities. The essential difference between ambulance work in England and that on the continent can, however, readily be felt by those who read even the greatly condensed observations of German, French, and Russian authorities as indicated in the pages before us, a difference which must necessarily follow from conditions which to our neighbours are part of their ordinary life as citizens. Compulsory military service and the ever-present possibility of the employment of the country's army upon active military operations on a vast scale combine to train and to stimulate men engaged in peaceful occupations for duties and responsibilities which will have to be faced in earnest when war arises. To these the ambulance corps which deals with a mining or railway accident by means of its organisation and training is keeping itself in practice with a view to that work which is more essentially the service of the Red Cross, and which may at any time have to be done under the scanty protection afforded by that noble emblem. Quite possibly with the development of a new military system in England we may find that a fresh impetus has been given to a useful movement and that those who in the past have had the energy and public spirit to enrol themselves in the ambulance sections of our volunteer battalions or in the

St. John Ambulance Association will find their numbers augmented.

It is to be hoped that such will be the case, for the training is one of practical utility in whatever circumstances "first aid" may be required, and if ever what Mr. Kipling calls "the real thing" happens so as to affect our territorial forces directly, it will be too late to remedy deficiencies which in peace time we may have regarded with indifference. There is a branch of life-saving and first aid to which it is most appropriate to call attention at the present season. With the warm weather bathing becomes universal, and with the advent of the summer holidays drowning accidents figure very frequently in our newspapers. These, be it remembered, are the fatal cases as a rule, some of which might have been averted by means of a knowledge of how to aid a struggling swimmer or how to resuscitate the insensible body brought to shore apparently dead. The cases in which knowledge of how to save life has figured, particularly when it has been exhibited in the less heroic manner by treating the half-drowned person, are often not reported, and we would commend the first aid to be rendered in such cases to the attention of all.

◆

Improvement of Official Statistics.

Sir Charles Dilke in his address in November last, as President of the Royal Statistical Society, revived an important and interesting question which was considered and reported upon by the Official Statistics Committee appointed in 1877 by the late Mr. W. H. Smith when Secretary of the Treasury, the final report of which committee was issued in 1880. This report suggested the creation of a small central statistical department for the general supervision and control of official statistics, and Sir Charles Dilke in his address strongly urged the increased necessity, after the lapse of nearly 30 years, for action in this direction. At the last meeting of the Royal Statistical Society on May 16th Mr. Arthur L. Bowley, M.A., read a paper also dealing with the desirability of creating a central statistical authority in order to promote the improvement of official national statistics. In this paper, having regard to the object in view, it was perhaps natural that Mr. Bowley should have condemned somewhat too generally the value of the statistics issued by the various Government departments. The want, however, of uniformity and of general coördination in the statistics prepared and issued by different executive departments has long been generally admitted, although no measures have yet been adopted for carrying out this reform since the recommendation made in the report of the committee referred to. Sir Charles Dilke and Mr. Bowley give many striking examples of overlapping and even of contradiction in separately issued official statistics. M. Cheysson, an eminent French statistician, published in 1882 a report on the condition of Government statistics in various European countries, with a view to the creation of a general supervising and controlling authority in France, in order to bring about "harmony, proportion, order, and uniformity of arrangement in national statistics." As a result of this report a French Conseil Supérieur de Statistique, modelled on that of Belgium, was founded in 1885. M. Cheysson recommended in the first instance, and his advice was followed, coördination through a representative advisory committee in order to allay departmental suspicion and opposition. Sir Charles Dilke, however, in his address, expressed the opinion that "a mere meeting of statisticians from the various departments would be an insufficient result of our labours; a permanent statistical direction is, I think, required." It is obviously necessary, with a view to the improvement of official statistics, that the chief of the statistical branch of each Government department charged with the preparation of statistics should be a trained statistician. If this condition were fulfilled it would then become a question whether M. Cheysson's proposal for the creation of a consultative council, consisting of the chiefs of the statistical branches of the principal government departments, with, perhaps, one or two added unofficial statisticians, would not be preferable to the creation at present of the directing central statistical department recommended by Sir Charles Dilke. It certainly appears that to divorce the compilation of official statistics from the executive staff having the control of the collection of the statistical material would be a doubtful advantage and would involve some risk of deterioration in the result, since the true value of statistics depends much upon an accurate appreciation of the precise method of collection and of its various sources of possible error. We cannot, for instance, imagine that to transfer to a central statistical office the preparation of statistics of population, births, marriages, and deaths from the Registrar-General, who is the administrative chief of the large staff of outdoor officers who furnish the returns from which these statistics are compiled, would have any beneficial result. At the same time we wish every success to Sir Charles Dilke's desire for the creation of some central statistical authority with administrative or consultative power to promote greater uniformity and further improvement of our official statistics which are very generally admitted to be necessary.

Annotations.

"Ne quid nimis."

THE BIRTHDAY HONOURS.

In the long list of birthday honours published last week the following names of medical men occur:—Sir Thomas Lauder Brunton, LL.D. Aberd. and Edin., M.D. Edin., F.R.C.P. Lond., D.Sc. Edin., F.R.S., and Professor William Watson Cheyne, C.B., LL.D., M.B., C.M. Edin., F.R.C.S. Eng., D.Sc. Oxon., F.R.S., upon whom Baronetcies have been conferred; Brevet Colonel David Bruce, R.A.M.C., C.B., F.R.S., Mr. Robert William Burnet, M.D., C.M. Aberd., F.R.C.P. Lond., and Mr. Peter O'Connell, M.D., M.Ch. R.U.I., who have received the honour of Knighthood; William Henry Power, C.B., who has been promoted from a Companion of the Order of the Bath to be a Knight Commander of his Order; Lieutenant-Colonel Johnston Shearer, I.M.S., D.S.O., who has been made a Companion of the Bath, and Lieutenant-Colonel Francis Frederick Perry, I.M.S., honorary surgeon to the Viceroy, and principal of the Medical College, Lahore, who has been appointed a Companion of the Indian Empire. Sir Lauder Brunton, as our readers know, has made many valuable contributions to medical science and was our representative at the second Hyderabad Chloroform Commission and assisted to draw up the able report which was published in THE LANCET in 1890.[1] He was also a member of the commission which went to France to report on the treatment of hydrophobia by Pasteur's method. His "Handbook of Pharmacology, Materia Medica, and Therapeutics" is well known, as are also his "Disorders of Digestion, their Consequences and Treatment" and his "Collected Papers on Circulation and Respiration." Sir William Watson Cheyne, who was a consulting surgeon to the forces in South Africa during the late war, has been for many years in the van of scientific surgery. His Wightman lecture on the Defensive Arrangements of the Body, which we published in our last issue, is a thoughtful study of important problems the solution of which has a vital bearing on our medical and surgical procedure and well illustrates his manner of approaching surgical problems. He has contributed largely to professional literature, among his works being "Antiseptic Surgery: its Principles, Practice, History, and Results," and the "Manual of Surgical Treatment," written in conjunction with Mr. F. F. Burghard. Sir David Bruce, a member of the Army Medical Advisory Board, director of the Royal Society's Commission for the Investigation of Sleeping Sickness, and chairman of the Commission for the Investigation of Mediterranean Fever, is the well-known discoverer of the bacillus Melitensis, the immediate cause of Malta fever. His bacteriological investigations will long remain a monument to his patient research in the cause of sickness, especially in those diseases which so terribly handicap the white man in hot climates. His contributions to medical literature include "Malta Fever," "Nagana or Tsetse Fly Disease," and "Sleeping Sickness." Sir Robert W. Burnet, honorary physician to the Prince of Wales, was the friend of the late Prime Minister and was his medical attendant during his last illness. He is the author of several medical works. Sir Peter O'Connell is surgeon to the Mater Infirmorum Hospital and High Sheriff of Belfast. Sir William Henry Power, K.C.B., late medical officer to the Local Government Board and Crown nominee on the General Medical Council, is a member of the Royal Commission on Sewage Disposal. His investigations with regard to infectious diseases are well known and his position was admirably summed up by the late Sir Richard Thorne Thorne when he described him as "the greatest living epidemiologist." The nursing profession is represented in the birthday list of honours by the inclusion of the name of Miss Ethel J. Martin, matron of Queen Alexandra's Imperial Military Nursing Service, who has had conferred upon her the decoration of the Royal Red Cross.

SIR HENRY ALFRED PITMAN'S CENTENARY.

ON Wednesday, July 1st, Sir Henry Alfred Pitman reached the age of 100 years, having been born in 1808. Sir Henry Pitman's health is wonderfully maintained when his age is taken into consideration, while it is a sufficient testimonial to the working of his mental faculties when we mention that until the present year he has continued to act as auditor of THE LANCET Relief Fund. Among the many tokens of regard which Sir Henry Pitman has received there is one which we know that he will highly prize—viz., a handsome silver-gilt bowl, which was conveyed by a party of old friends and colleagues at the Royal College of Physicians of London, who proceeded to Enfield, where he resides, on July 1st, to felicitate him. Amongst these were Sir R. Douglas Powell, Sir Dyce Duckworth, Dr. G. Fielding Blandford, Sir William H. Allchin, Dr. Edward Liveing, Dr. C. Theodore Williams, and Dr. Frederick T. Roberts. The bowl bears the following inscription: "Presented to Sir Henry Alfred Pitman, July 1st, 1908, on the hundredth anniversary of his birth and in recognition of his long and valuable services as Registrar of the Royal College of Physicians." The Royal College of Surgeons of England has been no less prompt to recognise the occasion. From a letter sent to Sir Henry Pitman by the council of the College, and signed by Mr. Henry Morris, the President, and Mr. Rickman J. Godlee and Sir William Watson Cheyne, Vice-Presidents, we take the following passage:—

> We recall with satisfaction, and hold in great estimation, the valuable services, in the best interests of both medicine and surgery, rendered by you as registrar of the Royal College of Physicians, and as a member of the joint committees of the two Colleges; and the records of the Colleges bear witness to the energy and wisdom with which, throughout your tenure of office, you sought to foster and promote a high moral, social, and educational standard of the profession in this country.

A telegram of congratulation was received from the King, and an album of signatures from St. George's Hospital. We desire to associate ourselves with the numerous expressions of congratulation which Sir Henry Pitman has received. As a public servant and as a private friend he has been known to us personally for considerably over half a century, and we greet him on completing his hundredth year with every feeling of hearty and affectionate respect.

"SCOTT OF BROMLEY."

A CORRESPONDENT writes:—"Great reputations have a way of fading into obscurity with a rapidity not always deserved. No one now cites 'Scott of Bromley,' yet an obituary notice of him in Vol. II. of THE LANCET of 1848 speaks of his career as 'unparalleled in the annals of general practice.' The writer of 60 years ago is anxious that Scott should be remembered for all time, not only by the medical profession but by humanity at large. James Scott was a self-made man. He studied at the London Hospital, where he was a favourite with Blizard. Buying a small surgeon's practice at Bromley, which was worth £300 per annum, he soon raised its value to £1500 annually. He is said to have 'made it a constant rule to apply every dressing and perform every surgical manipulation himself.' He thus acquired a 'tactus eruditus' unrivalled at that time. He was a typical surgeon of his generation, bluff but kind, and inspired the greatest confidence in his many fashionable patients. Millar in the 'Principles of Surgery,' p. 375, says: 'Much credit is due to Mr. Scott for having directed attention to the importance of rest and pressure, combined with moderate irritation of the surface; and a modification of what is ordinarily termed "Scott's dressing" will be found a most valuable remedy in all chronic affections of joints.' His books on this and kindred subjects 'showed a profit of at least £10,000 a year for some years.' Truly, it would seem that, as THE LANCET biographer remarks, 'the lives of such men belong to all time.' The writer of the present note is reminded of James Scott—the magnificent mezzotint of whose portrait, engraved by C. Turner after Howard, R.A., is in its early state a collector's prize at this day—by finding the following account of one of his dressings in an old diary: 'I was under many surgeons—old John Scott in Broad Street, City, and after him his son [the diarist confuses father and son here]. Their way of treating it [a fractured periosteum of the tibia, originally doctored with "a bit of brown paper soaked in vinegar" in 1829!] caused horrible pain. It consisted in covering the place with a quantity of ointment and then strapping it up from the ankle to the knee—tight—with strips of diachylon plaster and a cotton bandage. This ate into the very flesh, and when I was wild with pain I passed an ivory knitting pin inside the plaster and drew it out covered with blood.' It should be borne in mind that this last was the desperate proceeding of a child under 15 years old. Callaway cut away the dressing and proceeded to new tortures with caustic, and partial relief was only found under Joseph Henry Green and Sir Benjamin Brodie, and later Rigaud in France, merciful men if any were. The whole thing happened a long time ago and the erewhile sufferer died at a very advanced age in 1905. The passage in the diary is only cited as proof of the painful and rudimentary practice of even famous surgeons before the days of Listerism."

---

[1] THE LANCET, Jan. 18th (p. 149) and March 1st, 1890 (p. 486).

THE TELEPHONE AND THE SPREAD OF DISEASE.

WE have received from the Post Office a copy of the report made by the City medical officer of health some three years ago upon the possible spread of infection by call-office telephones. It may be remembered that Dr. W. Collingridge examined a considerable number of call-office telephones and found them to be free from disease germs, but this fortunate fact does not minimise the importance of the report made in our columns last week by Dr. Francis J. Allan, medical officer of health of Westminster, who clearly showed that in certain cases call-office telephones may be a distinct source of danger to the public. It is quite true, as was stated on Monday last by the Postmaster-General in the House of Commons, that Dr. Allan found no trace of disease germs in five out of six call-office telephones which he tested, and it may be that the sixth instrument where a dangerous state of things was observed had particular features in its station to account for its condition, but it is impossible to minimise the fact that Dr. Allan has clearly proved that the call-office telephone may be a source of great danger.

THORACOSTOMY IN HEART DISEASE.

WE publish in another part of this issue of THE LANCET an interesting paper by Dr. Alexander Morison in which some observations are made concerning an operative method devised to afford relief to certain cases of enlarged heart. The enlarged area of pulsation and the forcible thrust against the chest wall in cases of greatly hypertrophied heart are familiar features in the clinical picture of certain forms of cardiac disease. Some years ago Dr. Morison suggested that the severing of pericardial adhesions by surgical methods might eventually be a practicable procedure, and again in a paper read before the Æsculapian Society and published in THE LANCET of July 28th, 1906, he suggested that the hypertrophied heart needed more room to work in and that it was possible that in the future a means might be found to provide such increased room by surgical methods. He now gives references to the actual carrying out of operations specially devised for this purpose with which he has recently become acquainted. He finds that as long ago as 1902 Professor Brauer proposed that the costopericardial adhesions in cases of adhesive pericarditis should be separated, and operations were carried out upon two of his cases by Professor Petersen and Dr. Simon, pieces of several ribs being resected in the first case, while in the second case a portion of the sternum was also removed. A third case was operated upon by Dr. Simon, and Dr. Morison is privately informed that a fourth case has been operated upon under Professor Brauer's supervision. Professor Wenckebach has also published a case in which parts of several ribs and their cartilages were removed. Dr. William Mackenzie of Melbourne has independently suggested the removal of portions of the sternum and ribs in order to free the heart from costopericardial adhesions. Still more recently Dr. Morison has developed the principle of affording relief to intrathoracic pressure by operative procedure by applying it to a case of mediastinal tumour involving the heart and to a case of cardiac pain associated with enlarged heart due to aortic valvular disease with a view to afford increased room independently of any question of relief of tethering due to pericardial and costopericardial adhesions. The clinical features of the latter case are described in detail in his paper. The patient was a clerk, aged 19 years, with aortic valvular disease associated with severe attacks of pain. After rest and medical treatment had failed to give relief Mr. Ewen C. Stabb, at Dr. Morison's suggestion, performed on May 1st an operation, removing four and a half inches of the fifth rib and five and a half inches of the sixth. The results of the operation to date appear to have been satisfactory and there has been considerable relief to the pain from which the patient suffered. It is obvious that the greatly hypertrophied heart has to make room for itself in the closed thoracic cavity and the bulging of the præcordia in children is an evidence of the force which it exerts upon the more easily yielding thorax in early life; consequently from a theoretical point of view the suggestion to afford increased room for the heart or to lessen the resistance which it has to contend against is one which has much to commend it. Practically, however, the procedure is a somewhat serious one to recommend to a patient with grave organic disease of the heart, involving as it does anæsthesia with a more or less extensive operation. Dr. Morison himself deprecates laying too great stress upon the result in a single case. Moreover, the time which has elapsed since the operation is very short. We shall await with interest the further progress of the case, and meanwhile we may congratulate Dr. Morison and Mr. Stabb upon the result so far obtained. We cannot but feel, however, that the cases submitted to this operation will require most careful selection, even should the permanent results prove as encouraging as those immediately obtained.

A "PSYCHIATRIC CLINIC" FOR THE JOHNS HOPKINS HOSPITAL.

Mr. Henry Phipps, who is a steel magnate of the United States, makes very good use of his fortune. He has founded model tenement houses in New York and endowed a special dispensary for pulmonary tuberculosis in connexion with the Johns Hopkins Hospital at Baltimore. That great centre of American medical research has benefited recently by a further gift of $750,000 from the same philanthropist for the purpose of founding a hospital for the treatment and study of acute mental disease such as Dr. Henry Maudsley's munificence has insured recently for London. The intentions of both benefactors are the same and were set forth in the leading article in which we discussed Dr. Maudsley's recent offer to the London County Council.[1] Mr. Phipps has made a study of the conditions under which the insane are treated in America and has concluded that the system is not worthy of his country; he is said to have been stimulated in his inquiry partly by the allegations made against it in that remarkable autobiography, "A Mind that Found Itself," which we discussed last week in these columns. Be that as it may, he has been convinced that a hospital is needed urgently in which sufferers from early mental disease can be treated on general hospital lines, without the stigma of undergoing certification or the distress of mixing with degraded dements. He wishes the institution to possess a thorough laboratory equipment and to afford every opportunity for the routine study of psychiatry by students of medicine. To these ends he will found a hospital for some 60 patients in the precincts of the Johns Hopkins Hospital and will provide for its upkeep, as well as for the maintenance of a professor of psychiatry, for a period of ten years. This professor will be the director of the hospital, and he will be assisted by a resident physician and two assistant physicians upon the clinical side, and by three physicians in charge of the pathological, chemical, and psychological laboratories upon the purely scientific side. The director, when he has been chosen, will visit Europe in company with the architect in order to study the construction and equipment of approved continental hospitals for the treatment of mental diseases. Mr. Phipps announced his splendid gift in a letter to Dr. W. H. Welch, who is credited with having aroused his interest and given him much expert advice in the matter. In the course of this letter he wrote: "It is my hope and expectation that the psychiatric clinic thus founded may serve as an example of what such institutions should be, and prove to be a stimulus to the establishment of similar hospitals and professorships elsewhere." Here is a plutocrat who brings a clear head as well as a singularly open hand to the bestowal of his charity. We congratulate Johns Hopkins University and Baltimore upon so important an addition to their scientific and humanitarian resources.

---

[1] THE LANCET, March 7th, 1903, p. 723.

DISEASES AND INJURIES OF THE ANCIENT EGYPTIANS.

MEDICAL men who are interested in the history of medicine will find an opportunity in connexion with the annual exhibition of preparations recently added to the Museum of the Royal College of Surgeons of England on July 2nd, 3rd, and 4th, of examining an extensive and remarkable series of specimens illustrating the diseases and injuries of the ancient inhabitants of Upper Egypt. It is not too much to say that this collection, which is destined to find an appropriate home in the Hunterian Museum, is one of the most important contributions ever made to the history of medicine. The specimens were collected during the exploration of some 57 cemeteries in Nubia, just beyond the confines of Upper Egypt, and represent accidents and diseases of every period of Egyptian history from early predynastic times to the comparatively recent Roman and early Christian periods. The collection, which embraces over a hundred specimens of healed fractures of various bones, was made by Dr. Wood Jones, under the direction of Professor G. Elliot Smith, during the survey necessitated by the projected raising of the level of the Aswan dam.

THE DIRTY CUFF.

FROM an æsthetic point of view the cuff seems to be an indispensable part of the clothing of the neatly and cleanly dressed individual. This assumes, of course, that the cuff is clean and spotless. Bacteriological refinements are often dismissed by many people as inadmissible in the common applications of life, but the exhibition of a dirty or even frayed cuff is commonly held to be the mark of slovenliness and dirt or as an indication that the individual has lost all regard for his cleanly appearance and condition. There can be no doubt at all that when the cuff picks up, as it is so prone to do, dirt from the counter, desk, or table it picks up also a multitude of micro-organisms. Dirt so far may be welcomed, inasmuch as it indicates an insanitary state of affairs. There is therefore a very strong scientific argument in favour of the wearing of materials which readily exhibit the signs of soiling. The white dress, the drills, and the ducks must necessarily be cleaned at regular intervals because they look unsightly or are an offence to the eye. The demand of the eye thus encourages the preservation of the hygienic state. It is so also with the cuff. No man with any respect for himself can wear a dirty cuff, and by keeping his cuffs religiously clean or by changing them frequently he is reducing his chances of coming into intimate contact with a collection of bacteriological entities. The adoption of "dark goods" or of those materials which do not show dirt may therefore be regarded as a retrograde step, for it is obvious that such materials must get soiled just as much as do those which easily show the defilement. They, however, are not so frequently cleansed because there is no offence to the eye even after several days' wear and thus dirt is allowed to accumulate. When a man finds it convenient to wear coloured shirts and cuffs he means in reality that he can carry dirt for a little longer without giving offence than if he wore a spotlessly white material, or at all events a material which readily exhibits the smear of dirt or grease. The washing bill is, of course, reduced and the terrors diminished of the disintegrating process which is involved in an oft-repeated visit to the laundry. Lastly, it may be mentioned that from the point of view of hygienic demand the coloured handkerchief is an abomination when its colour is merely adopted in order to avoid frequent washing.

IS BERI-BERI IDENTICAL WITH EPIDEMIC DROPSY?

DR. T. Frederick Pearse, the health officer of Calcutta, has lately brought forward weighty evidence in support of the theory that epidemic dropsy is identical with beri-beri. The former disease was observed first in the year 1877 in the southern suburbs of Calcutta, and appeared at intervals up to the year 1880, new localities being attacked with each recrudescence. 20 years then elapsed before the next outbreak occurred. The disease was at first thought to be of the same nature as beri-beri but was subsequently held to be distinct from it. Dr. Pearse has recently stated his views that the first impression of the nature of the disease is correct. He shows that the combination of symptoms in the two complaints is very similar. The greater or less œdema, especially in the shins, the hyperæsthesia and deep-seated pain in the legs, the cardiac symptoms, and the mode of death are common to both. The dropsy is shown in the same special and characteristic manner even to effusion in the pleural and pericardial sacs; also the nervous phenomena, if of less degree in epidemic dropsy, are identical in character—viz., those of peripheral neuritis. The conditions found post mortem are, although in no way characteristic of either disease, yet similar in both. As Dr. Pearse points out, the combination of œdema with symptoms pointing to peripheral neuritis with "rheumatic"-like pains and with disordered heart action, is only known in these two diseases. All the symptoms in the two diseases are similar in character, if not always in degree, and cases occur in outbreaks of each disease which are indistinguishable the one from the other. Finally, death is brought about in a similar manner, sometimes suddenly and sometimes slowly, by nervous disturbance of the heart's action. Reasoning on the above similarity in the course of the two affections, Dr. Pearse states his opinion to be that we have to look to some specific microbe as the cause of both. He certainly makes out a strong case in favour of his idea, as there are certain cardinal symptoms present in both affections—namely, the deep-seated pain and distinct tenderness of the calves, the great muscular weakness without absolute paralysis, the cardiac troubles as shown by shortness of breath, palpitation, reduplication of sounds, rapid and irregular pulse, and varying murmurs. Opponents of this view have pointed out that the knee reflex is lost in beri-beri but not in epidemic dropsy. This, however, is not universally true; in the recent outbreak at Calcutta of the latter disease the knee-jerk was either distinctly impaired or lost. Other writers, again, draw attention to the absence in beri-beri of the anæmia occurring in epidemic dropsy, but as Dr. Pearse points out, the blood conditions have not yet been sufficiently demonstrated to lay down any definite distinction between these two classes of cases.

THE STATUES ON THE NEW PREMISES OF THE BRITISH MEDICAL ASSOCIATION.

AT a meeting of the Council of the British Medical Association held on July 1st it was resolved "That, having carefully considered the objections raised and the many favourable expressions of opinion by eminent authorities on Art as to the statuary on the new premises, the Council instruct the architect to proceed with the work." We congratulate the Council on this decision. We fear that motives of advertisement may lead to some continuance of the so-called purity campaign, but the Council are so solidly backed by artistic opinion in the course which they are pursuing that they will not be much worried by such tactics.

THE ENTENTE CORDIALE MÉDICALE.

A NUMBER of the members of the Society of French Medical Practitioners who have been attending their recently concluded annual congress at Lille arrived on a visit to London upon Tuesday evening last. They are under the leadership of Professor Ambrose Monprofit, the distinguished surgeon of Angers, who was President of the French Surgical Congress of last year. The number of delegates and their wives who are visiting us is 344. This visit was arranged at very short notice and is not to be confused with that which is shortly to be made to London by another French medical party under the auspices of the "Voyages d'Études Médicales," and which we have already announced. In connexion with this latter visit Professor Landouzy, the Doyen of the Paris Faculty of Medicine, has promised to give a lecture in his own language at the rooms of the Royal Society of Medicine, 20, Hanover-square, at 5 P.M., on Tuesday, July 14th, upon Some French Health Resorts. Professor Landouzy has a great reputation amongst French medical orators and it is to be hoped that a large gathering of his English *confrères* will assemble to welcome him.

THE RELATION OF THE MEDICAL OFFICER OF HEALTH TO THE FEVER HOSPITAL.

THERE is a certain amount of difference of opinion amongst sanitary authorities as to what should be the precise position of the medical officer of health in connexion with the local isolation hospital, but it is, we think, very generally conceded that where practicable he should act as the medical officer, and where owing to the size of the hospital or the size of the district such a course is impracticable he should, nevertheless, exercise a general superintendence over the institution. As, however, will be seen by the account which we give elsewhere of a meeting of the Midland branch of the Incorporated Society of Medical Officers of Health, the Bilston urban district council has terminated, apparently in a very abrupt manner, the direct connexion of its medical officer of health, Dr. T. Ridley Bailey, with the isolation hospital. It is difficult to determine from the somewhat meagre account of the proceedings which has reached us what were the precise reasons for this remarkable line of action, more especially as there would appear to be no ground for complaint as to the manner in which Dr. Bailey has hitherto performed the duties appertaining to his office. We must confess that in so far as our own information goes we see no sufficient reason for the step which has been taken. Bilston has only a population of some 25,000 and doubtless Dr. Bailey is well able to devote the necessary time to his hospital duties. Moreover, we cannot but feel that a step such as this must have the undesirable effect of prejudicing the public against the medical officer of health, and having regard to the seriousness of such an apparently unjustifiable step as this it would, we think, be well if the Local Government Board were asked to hold a public inquiry into the matter through the agency of one of its medical inspectors. The local branch of the Society of Medical Officers of Health has unanimously passed a resolution strongly condemning the step taken by the district council and expressing the opinion that in the circumstances no medical man of any standing will be found to accept the vacant position. It is therefore clearly the duty of any self-respecting practitioner to communicate with the local branch of the society in question before applying for the post. Probably, however, a Local Government Board inquiry would be the best means of ascertaining all the facts and merits of the case.

THE TREATMENT OF TUBERCULOUS DISEASE BY TUBERCULIN.

WE have received a copy of a reprint of a paper published in the *Zeitschrift für Tuberculose*, Band XII., Heft 3, p. 216, 1908, by the late Dr. Augustus C. Kinney of Astoria, Oregon, U.S.A., on "Additional Observations of Remarkable Results from the Use of Immunity Treatment in Tuberculosis." The pamphlet is in substance a plea for the use of smaller doses of tuberculin. Dr. Kinney employed the watery extract of tubercle bacilli of van Rock and the antiphthisin of Klebs. He recommended injections once a month and later once in three months. He also employed the old tuberculin, which is sold under the name of tuberculinum Kochii. At first he used doses of 1/20th of a milligramme but subsequently he reduced them to 1/500th of a milligramme. The paper contains brief details of cases treated by these methods. They appear to be for the most part cases of advanced disease of the lungs and other organs. It is claimed that good results were obtained in a majority of these, excluding cases with mixed infections, though it is admitted that many cases were liable to relapse after recovery. It is therefore difficult, in view of the absence of details as to the number of cases treated and the duration of the beneficial effects obtained, to appraise properly the value of Dr. Kinney's results, but his views as to the advantage of smaller doses are in accord with those advocated by Sir A. E. Wright and the general tendency is nowadays in favour of even smaller doses than those recommended by Dr. Kinney.

CANCER OF THE WOMB.

AT the request of the Central Midwives Board Dr. F. H. Champneys has, as we announced last week, drawn up a circular letter for the information of certified midwives in which is urged how extremely important it is that any woman who is suffering from symptoms suggesting the onset of cancer of the uterus should seek medical advice at once. In the circular great stress is laid on the fact that no time should be lost in such cases, and on the further fact that the change of life should not be accompanied by floodings, irregular bleedings, or irregular discharge of any kind from the womb. The chief complaint of all surgeons is that they see cancer cases too late because the patient has ignored symptoms which may have been present for some weeks or even months. The remedy for this unfortunate state of things is to be found in the better education of women with regard to the great importance of seeking medical advice when any such symptoms are present. Unhappily it is usually the neglect of the patient to take heed of what only too often she regards as a discharge of no moment that prevents her medical attendant from having an opportunity of recognising the presence of cancer of the uterus sufficiently early to enable it to be removed with any great prospect of success. We are glad to see that the Central Midwives Board is taking the matter up, as it is only in some such manner that the great mass of women can become instructed in this most vitally important matter. The results in Germany of an active campaign started by Professor Winter are extremely encouraging and the percentage rate of operability of these cases has steadily increased during the last five years and is still rising. The preparation and issue of such a leaflet have been suggested by many gynæcologists in this country and we do not think that any harm is likely to result from it. Possibly the information which it contains may lead some women to think that they have cancer when such is not the case, but if it is successful in causing any woman with suspicious symptoms to seek medical advice at once it will result undoubtedly in increasing the number of cases in which a radical operation is possible and so will procure the saving of many lives.

THE ROYAL DENTAL HOSPITAL OF LONDON.

Sir Frederick Treves, Bart., G.C.V.O., C.B., occupied the chair on the occasion of the jubilee festival dinner of the Royal Dental Hospital of London which was held at the Hotel Cecil on June 25th. In proposing the toast of "The Hospital and School" the chairman made a powerful appeal to those gathered around him for a strong and united effort to place the funds of the hospital on a satisfactory basis. He pointed out the peculiar position occupied by the hospital in regard to public opinion. The hospital, he thought, was not appreciated as it ought to be and some people pretended that they could not understand why £47,000 should be required for a dental hospital when teeth could be pulled out in the street. Dental operations very commonly formed the basis of caricature and few seemed to realise that dentistry had developed along lines which involved many marvels of applied science. He had visited the hospital on more than one occasion and with the result always that he came away with a feeling of admiration for the skill of the staff and for the splendid equipment and accommodation which the hospital afforded to suffering humanity. England, he added, could be proud of its magnificent charity to hospitals, and beneath that charity there was a spring of sentiment which, however, and unfortunately, did not touch a dental hospital where there were no beds and no patients to whom kindly gifts could be brought. Surgeon-General Sir Alfred H. Keogh, in replying to the toast of "The Imperial Forces," referred to the great progress which was being made in regard to dental treatment in the army, and said that for years past they had rejected as unfit for the army a number of young men who but for dental defects would have been capable of service. The subject was receiving the attention also of our naval authorities, to which allusion was made by Inspector-General James Porter in his reply to the same toast. It was announced by the chairman on giving the toast of "The King," that His Majesty had headed the subscription list with £50, and during the evening the donations promised amounted to £3000. The toast of "The Visitors" was proposed by Sir Richard Douglas Powell and was responded to by Sir James Crichton-Browne. An excellent programme of music by the "Westminster Singers" added to the enjoyment of the evening. The proceedings were altogether successful and great credit is due to those who shared the work of organisation.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

King Edward's Hospital Fund has recently issued a circular to the hospitals of London reminding them of the resolution sanctioned by the General Council in 1903 to the effect—

> That in future any new hospital or those reconstructing or extending to a considerable extent, within the area dealt with by the Fund, be requested before taking definite action to submit their proposals to the Fund.

The circular proceeds to set forth the full purport and intention of this resolution and among other points states that the information submitted to the Fund should include the following:—

(1) Reasons and considerations which have led to the formulation of the proposals.

(2) The nature of the proposals, with any outline sketch which may be necessary in order to make clear the main features of the site and buildings, but not detailed architects' plans unless specially asked for.

(3) The amount of accommodation proposed to be provided, or other increase or modification of the work of the institution; compared so far as may be necessary with particulars of the present work.

(4) The rental and tenure of the site or buildings.

(5) The estimated cost of the proposals.

(6) The resources from which it is anticipated the cost may be met.

(7) The prospect of the provision for the increase (if any) in the cost of maintenance.

(8) The approximate dates of the beginning and completion of the work.

Similar information is requested from the promoters of new hospitals who might contemplate an application to the Fund in the future. But it is pointed out that the Fund does not assist in the foundation of new hospitals or entertain applications for grants from hospitals that have not been in existence in a properly constituted form for a period of at least three years. The King Edward's Hospital Fund is an institution which exists for objects which can only excite admiration, and its administration in the main has proceeded on sound and judicial lines. It may concern itself perfectly legitimately with checking wild and reckless schemes for extending hospital premises which take no heed of the probabilities of the income for their maintenance being found; but there are various ways of exercising such control and the tone of this circular may, perhaps, be regarded as unnecessarily peremptory.

TREATMENT OF NEURALGIA BY SUBCUTANEOUS INJECTION OF CHLOROFORM.

IN the *New York Medical Journal* of June 13th Dr. S. O. Goldan has reported very successful results in the treatment of neuralgia from an old method which has fallen into disuse—the subcutaneous injection of chloroform. He does not recommend it in acute neuralgia, in which medical treatment is usually effective, but in those chronic cases in which all palliative methods have failed and the patient is willing to submit to anything. From two to ten minims of pure chloroform are injected into the painful area with an ordinary hypodermic syringe. Considerable swelling and redness are produced which may seem alarming, and some patients will not submit to the treatment. Dr. Goldan has treated seven cases of facial neuralgia; in three the supraorbital nerve was affected, in one the infraorbital nerve, and in three the infraorbital and maxillary branches combined. The treatment instantly caused almost complete cessation of the pain. One patient had been treated previously by injections of osmic acid. From two to five drops of chloroform were injected in five or six places about one-half to one inch apart on the painful area. Three cases of brachial neuralgia were treated successfully by fairly deep as well as superficial injections. In seven cases of intercostal neuralgia immediate relief was given. The injections were made into the skin as well as deeply between the ribs. Five cases of sciatica were treated; in three repeated injections were required but the patients were completely cured. One patient, though benefited, refused further injections. One patient was not benefited and, indeed, was temporarily made worse, but in this case there was not merely sciatica but also phlebitis involving both limbs as well as the veins of the pelvis. The sciatica was greatly improved as a result of improvement of the phlebitis, which took place under treatment with the waters of Bagnoles de l'Orne, France. Dr. Goldan has also obtained good results from this treatment in lumbago. Patients have come to him almost creeping and within half an hour have walked away free from pain and erect. He ascribes the benefit to the inflammatory reaction produced by chloroform, which determines a new supply of blood to the nerve filaments of the painful part. Neuralgia, it may be remembered, has been described as the cry of the nerves for blood.

NATIONAL TUBERCULOSIS CONFERENCE AND EXHIBITION.

WE may remind our readers that a National Tuberculosis Conference and Exhibition will be held in the Caxton Hall, London, during November next. The conference is not a medical one but a national one, in accordance with its title, and its object is to arouse all sections of the community to the importance of securing more adequate means for the prevention and treatment of tuberculosis in all its forms. Consumption is a national scourge, calling for effective organisation and for the practical coöperation of all scientific, educational, and humanitarian forces which make for human betterment and racial progress. As is well known to all our readers, a series of very successful conferences and exhibitions has been held recently in different parts of Ireland under Viceregal patronage. These meetings have excited wide interest and greatly stimulated the anti-tuberculosis movement in Ireland, and it has been considered highly desirable that a thoroughly representative conference should be held this year in the capital of the British Empire, and the formation of a scientific exhibition is part of the scheme. The enterprise should appeal to all interested in and working for the physical improvement of the nation. It is arranged already that during the conference authorities from different parts of the Empire as well as continental leaders in the anti-tuberculosis movement shall take part in the proceedings, and arrangements will be made for country and foreign visitors to visit the chief sanatoriums and special hospitals for consumptives and other sufferers from tuberculosis situated in and near London. No efforts will be spared to interest all sections of the community in a consideration of the fundamental principles and scientific procedures on which the conduct of a successful campaign against tuberculosis must depend. It is hoped that all in any way interested in the objects and work thus outlined will communicate with the secretaries to the organising committee, Mr. Frederick V. Fisher and Mr. Ernest Schofield, at the offices of the Medical Society of London, 11, Chandos-street, Cavendish-square, London, W., from whom all particulars can be obtained.

THE annual general meeting of the Coal Smoke Abatement Society will take place to-day (Friday) at 3 P.M., at the Royal United Service Institution, Whitehall, S.W. The President, Sir William Richmond, K.C.B., R.A., will occupy the chair.

EXETER SEWAGE WORKS.—A Local Government Board inquiry was held at Exeter on June 23rd into the application of the Exeter city council for sanction to borrow £1272 for improvements at the Exeter sewage disposal works. It will be remembered that Exeter was a pioneer town in the adoption of the biological method of sewage disposal.

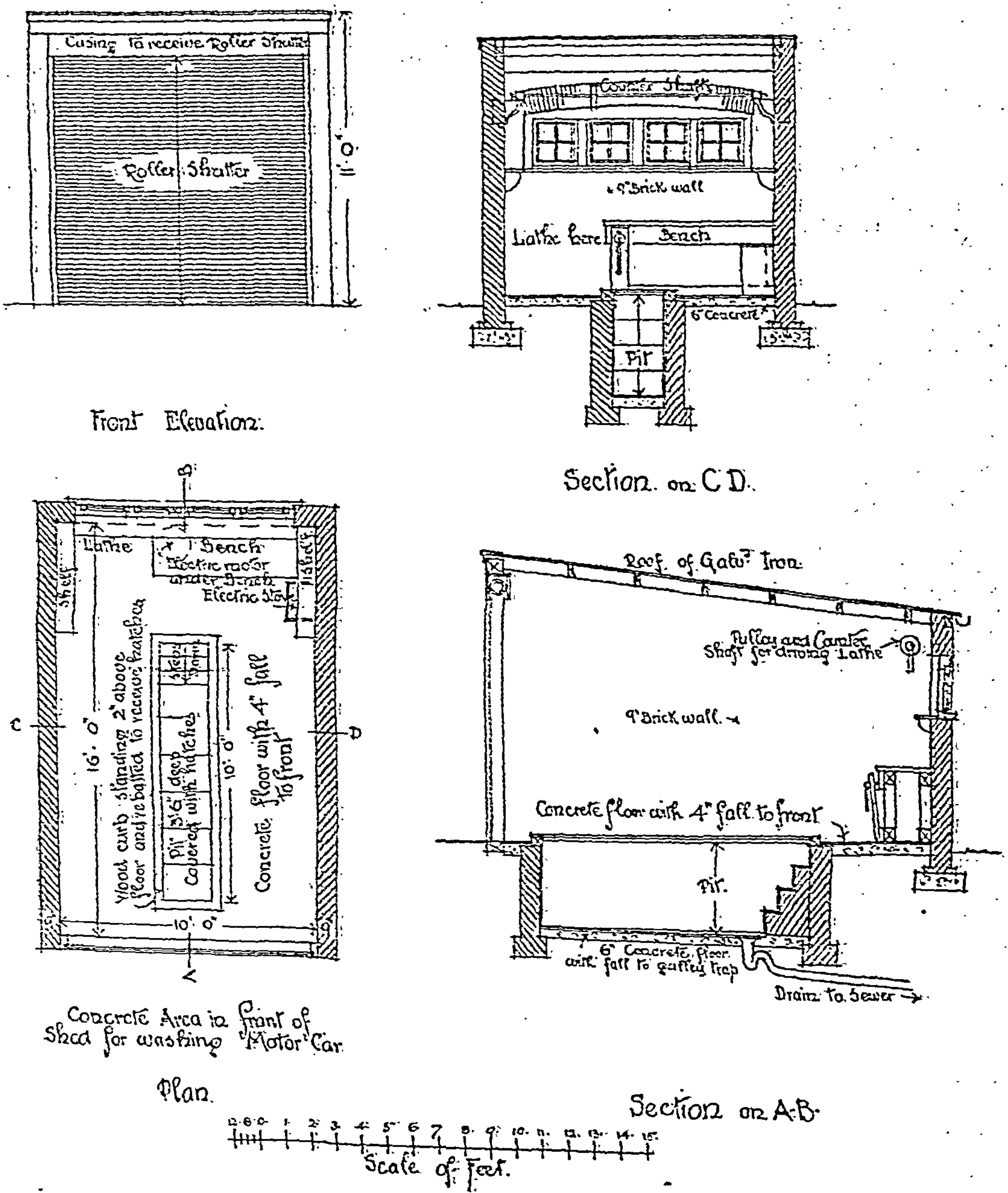
MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

IT is undoubtedly true that one's first car is usually, and rightly, a small one; mine, bought some ten years ago, was a 3-h.p. Benz. Unfortunately many, like myself, I think, do not realise that later a larger car may be, and probably will be, bought, so at the beginning a small motor-house is put up and then when a new car comes there is the worry of altering it. And that is not only a worry but also an expense. I have been through it, so I speak from experience. So if I may advise the embryo motorist I would suggest, when you invest in your first car certainly let it be a small one but do not be too parsimonious over its house. A good many medical friends have asked me about the kind of shed which they should erect for their automobile. Well, I do not think that a medico is likely to indulge in any machine longer than 13 feet or wider than 5 feet 3 inches, or higher than 7 feet, so a building that will accommodate one of these dimensions should do. Of course, wooden sheds which are moveable and come in segments can be purchased; still the insurance companies are rather shy about having timber structures near one's house, so where a man is in practice and likely to remain for some time I strongly advise a permanent brick building. The accompanying plans are based on how I should build my motor-house if I had my time over again, and taking the cube at 6*d.* such a shed as I propose to outline could be put up for £40, and, what is more, there would be room to carry out repairs in it, and, of course, if electricity be available it could be lighted and heated in that way. Electricity is, I understand, sold at a very low rate for heating, and if it be used the accumulators could, by means of a suitable switch, be charged while the lamps or fire are on without extra cost, and accumulators do have a longer life if they are kept fully charged and are not allowed to run down. Of course, in modern cars magneto ignition is the rule; still, a dual one is especially desirable for a medical man and a high tension coil and accumulator should be the stand by, in addition to the high or low tension magneto. But to return to the house. I suggest one 16 to 18 feet long, 10 to 12 feet wide, and 8 feet high at one end and 10 feet at the other; the roof will thus have a good fall and can be made of corrugated galvanised iron. Steel revolving shutters make an excellent door and have the advantage of not occupying much room; sliding doors can also be employed or ordinary folding ones, but the revolving shutters seem to me the most ideal. I believe, as it is a mere shelter house, that the surveyor will allow a 9-inch wall, and those who do not mind expense can, of course, use glazed bricks (they look much better), but unfaced whitewashed ones will answer. A nice refinement is to have a coved brick at the junction of the wall with the floor and to have all angles rounded, as is done in modern operating theatres. The width I give will permit of getting round the car and allow of tyres being changed in the shed, springs seen to, &c.

A pit is most useful and I always regret that when I built my shed I did not make mine as long as I might have. It should be in the centre of the floor, 3 feet 6 inches wide, and at least 10 feet long; the floor of the pit and house should be concreted or covered with flags of artificial stone resting on concrete and should have a slight fall, about a quarter of an inch to the foot, and the pit should be drained, if possible into the manhole that leads to the sewer, the usual S-trap being interposed; the fall of the floor of the shed itself will permit of its drain being outside and in front of the shed door. Where it is not convenient to run the pit drain into a sewer a hole deeper than the pit can be dug outside (at the back) of the shed, filled in with broken bottles and bricks, and a pipe from the pit can open into it at a lower level than the floor of the pit. The pit should be surrounded by a curb, standing up some 2 inches and covered by hatches, each about 2 feet wide, so in working under the car that portion of the pit which is under the actual work may be open and the rest kept covered. A convenient depth for a pit is from 3 feet 6 inches to 4 feet, and steps can be made at one end so as to enter with comfort, though, as a rule, mere iron rings are fixed in the wall for purposes of access. It is handy to fit in the walls of the pit little recesses all the way round, so that when working they answer as shelves on which to place the tools that may be needed.

At the further end of the shed a window almost the width of the shed can be made, some 6 feet above the ground; four small windows, as shown, will probably be cheaper than one large one. At the back above the windows provision should be made for a countershaft, to have bearings on each side of the shed, and these bearings should have little tin trays hanging under them so as to prevent oil dripping down and making a mess on the floor, which in addition is unhealthy for the tyres. The countershaft can be run by a small electric motor, which can thus drive a small Drummond lathe, a most useful aid to small repairs, and the working of which will, I am sure, prove a fascinating amusement as well as a great saving in the repair bill. The lathe can be placed at the left of the back of the shed, and on the right a bench should be made, one 4 feet long and 3 feet high and 18 inches wide, with the top of inch material; will do, 2-inch square stuff being used for the supports. To the table a good-sized vice should be fixed. Parkinson's Perfect No. 7 or 8 with a width of jaw of some 4 to 5 inches is an excellent one. Under the bench the electric motor can be put and over the bench a rack for tools and a shelf for spares.


Casing to receive Roller Shutter
Roller Shutter
11' 0"
Front Elevation.
Counter Shaft
9" Brick wall
Lathe here
Bench
6" Concrete
Pit
Section on C D.
B
Lathe
Bench
Electric motor under Bench
Electric Stove
Shelf
Shelf
Steps Down
Pit 3'6" deep covered with hatches
Wood curb standing 2" above floor and rebated to receive hatches
16' 0"
10' 0"
Concrete floor with 4" fall to front
C
D
10' 0"
A
Concrete Area in front of Shed for washing Motor Car
Plan.
Roof of Galvd Iron
Pulley and Counter Shaft for driving Lathe
9" Brick wall
Concrete floor with 4" fall to front
Pit
6" Concrete floor with fall to gulley trap
Drain to Sewer
Section on A-B
12 6 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Scale of Feet.

DRAWING FOR A MOTOR SHED.

Unless the water in the radiators is run out at night time the shed must in winter be warmed; an electric radiator answers well and is inexpensive to run, though the initial cost is high. If electricity is not available, then hot-water pipes, with the stove outside the shed, is the best method of heating. It is important that the stove should be quite away from the shed, as petrol may always escape or leak, and of course the vapour is most explosive. Fletchers make a little stove well fitted to keep water-pipes hot. Electricity is the ideal artificial light; failing this lamps must be fixed outside the house and their light admitted through windows. In front of the shed it is desirable, if possible, to have a yard paved and drained where the car can be washed. Petrol should not be kept in the shed but in two-gallon cans at some distance off. Personally, I do not keep more than what is in the car's tank, which my lad fills up while on my round. Spare tyres and tubes are best in a dark cupboard, and they are all the better for a little damp.

A good many motorists complain that their carburettors leave much to be desired, especially in regard to petrol consumption. Frequently this is more the fault of the car owner than the vapour-producing and mixing apparatus. A carburettor with a punctured float will often work if there is an overflow hole through which the excess of petrol can escape, but even then the mixture may be too rich and overheating of the engine thus takes place as well as extra trade for the petrol seller, and though the fluid is now but 1*s.* a gallon still there is no object in getting an extra quantity, for the sprinkling of the ground is of use to no one except perhaps the man who sells petroleum spirit. For those contemplating a change I can strongly recommend a new type of a mechanical automatic carburettor which is introduced by Messrs. H. M. Hobson, Limited, of 29, Vauxhall Bridge-road, London, S.W. It is the Claudel-Hobson. The whole carburettor, float chamber, mixing compartment, petrol channels, and the hot-air or water jacketing is in one casting. A fine sieve clears the petrol of any possible impurities prior to its admission to the float chamber, and on its further progress to the jet it is heated by either hot water or air, the latter from the exhaust. Some friends who have a carburettor which is heated by a hot-water jacket tell me in winter (their coach-house is not heated) that they have had trouble through the water in the jacket not draining all away and the part remaining behind freezing. In this carburettor exhaust pressure heating can be employed instead of water—an advantage to those with non-heated stables and who in winter drain off their water when the thermometer is near freezing. The jet is fitted with an air injector, and this and the way in which the throttle and control are cut and combined with the air regulator constitute the special features of the invention. The jet is covered by a tube, drilled at the bottom with holes and also at the top at the same level as the jet. When the throttle is shut the top part of the jet is in the mixing chamber, and the petrol is sucked through the top holes of the tube, whilst the suction is relieved by a proportionate quantity of air entering through the holes of the bottom of the jacketing tube, which is in direct communication with the atmosphere outside the regulator, thus insuring a perfect spray and an accurate proportion of petrol passing into the mixing chamber, whilst the throttle and air strangler combined are so cut that when opened—to whatever extent—for the engine to pick up, accurate proportions of air and petrol pass into the cylinders. Messrs. Hobson seem so certain of the petrol-saving advantages of their speciality that, I understand, they are willing to fit one of their carburettors for any owner afflicted with an extravagant one, and if it does not result in a considerable saving without any loss of power they will replace the old carburettor without making any charge whatever.

In most cars a small filter is introduced where the petrol supply pipe is connected to the float chamber, and as blockage of the jet is a bit of bother it is as well, where there is no such filter, to slip in under the pipe union a small gauze strainer washer and to recollect occasionally to clean it. A tool that should always be carried is a box spanner that will fit the jet; it is so annoying to diagnose a foreign body there and not be able to take it out for cleaning. It is seldom any good to introduce a bonnet pin into the top of the jet, for though the obstruction may be moved as soon as the engine starts it is drawn up into the narrower part, where it probably once more lodges and thus starves the engine. Occasionally the offending matter may be sucked through by putting some petrol into the cylinders through the compression taps and starting and racing the engine. Breakage of the petrol supply pipe is serious, and in addition to the loss of the petrol and its consequent ignoring of its proper destination, the engine, if it escapes near the hot exhaust pipe, may catch fire. A temporary road-side pipe repair can be carried out by cutting out the defective part and joining the divided ends by a bit of rubber tubing and affixing each end to the tube by a turn of copper wire. A cracked pipe can be made to answer for a time by binding it round and round with a soaped bandage and twisting over this some adhesive strapping. I did this once with some ordinary antiseptic adhesive plaster and it carried me for a whole morning's round. Occasionally the diagnosis of erratic running of the engine is a source of perplexity. Ignition causes being eliminated, the thought of "too weak a mixture" suggests itself, but the jet is clear, the petrol supply-pipe is found to be free. Then it is as well to inspect the joints where the induction pipe joins the mixing chamber or where it is attached to the inlet valve dome; a leaky joint at either of these parts may cause a weak mixture and account for the trouble. A little oil placed round the joints when the engine is running will by bubbles reveal if they are defective. A little asbestos cardboard rubbed over with red lead will remedy the complaint.

The Stepney Spare Motor Wheel Co., Limited, of Llanelly, who are the inventors and makers of the well-known and certainly most useful Stepney wheel, have put on the market an accessory that not only facilitates the fitting of their speciality but also extends its value by arranging it as a non-skid. Hitherto it has been necessary to push the outer covers inwards in order to fix the hooks of the Stepney wheel to the rim of the damaged car wheel. The new flange obviates this. It consists of a ring, which by means of bolts and nuts is fixed through the felloe, and not only improves the appearance of the car wheels but also strengthens them and makes it possible to fit the Stepney wheel not only in much less time but also with much less trouble, and if a non-skid studded tyre be on the Stepney, if rain comes on and the road becomes skiddy, a non-skid can be placed in position in a few seconds, and can be employed only when it is needed. This seems a very great advantage, for non-skids certainly wear more rapidly than plain tyres and are not always wanted, and with the new Stepney flange they need only be used when they are required. The company has opened show-rooms at 168, Great Portland-street, where those who are interested can see the flange. I was so impressed with the advantages of this new flange that, though I had merely visited their *depôt* for the purposes of this article, I ordered a set and they were very quickly fitted—in fact, I left the car at their place, and when I came back in one and a half hours the flanges were on and the car was ready.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are some of the principal amounts, additional to those already announced in THE LANCET, received at the Mansion House up to Tuesday evening, when the sum paid in was about £20,000:—

	£	*s.*	*d.*
St. Mary's, Bryanston-square	418	0	0
St. Paul's, Onslow-square	277	0	0
St. Peter's, Vere-street	263	0	0
St. Peter's, Cranley-gardens	252	0	0
Theistic Church, Swallow-street	210	0	0
All Souls', Hampstead	171	0	0
Union Chapel, Islington, and Mission	160	0	0
Temple Church	137	0	0
Christ Church, Mayfair	134	0	0
Emmanuel Church and St. Luke's Mission, Wimbledon ...	133	0	0
City Temple	129	0	0
Bromley Parish Church and St. Mark's Chapel	120	0	0
Christ Church, Chislehurst	118	0	0
St. Andrew's, Leytonstone	108	0	0
St. John's, Paddington	103	0	0
St. Mark's, Reigate	108	0	0
Church of the Annunciation, Chislehurst	100	0	0
St. Paul's, Westbourne-grove	96	0	0
Beckenham Parish Church	91	0	0
Greek Church, Aghia Sofia	96	0	0
Regent-square Presbyterian Church	84	0	0
St. Paul's Mission, Anerley	83	0	0
St. Matthew's, Bayswater	81	0	0
St. Anne's, Wandsworth	77	0	0
Immanuel Church, Streatham	71	0	0
St. Michael's, Blackheath Park	71	0	0
St. John's, Putney	70	0	0
St. James's, Kidbrook	69	0	0
Holy Trinity, Eltham	64	0	0
St. Stephen's, Ealing	64	0	0
St. Mary's, Stoke Newington	62	0	0
Christ Church, Newgate-street	60	0	0
St. Saviour's, Ealing (part collection)	58	0	0
Bromley Congregational Church	54	0	0
Church of the Immaculate Conception, Farm-street	53	0	0
St. James's, West Hampstead	53	0	0
Gray's Inn Chapel	50	0	0

	£	s.	d.
Trinity Presbyterian Church, Hampstead	50	0	0
St. Augustine's, Kilburn	50	0	0
Church of the Ascension, Blackheath	48	0	0
Christ Church, Blackheath	47	0	0
St. Alban's, Holborn	47	0	0
Dulwich College Chapel	46	0	0
Grosvenor Chapel, *South Audley-street*	45	0	0
St. Magnus the Martyr, London Bridge	44	0	0
St. Stephen's, Westminster	43	0	0
St. Cuthbert's, West Hampstead	41	0	0
Christ Church, East Greenwich	40	0	0
St. Paul's, Camden-square	40	0	0
Chapel Royal, St. James's	39	0	0
St. Paul's, Harringay	39	0	0
St. Paul's, Wimbledon Park	39	0	0
West Wickham Parish Church	38	0	0
St. Michael's, Betchworth	36	0	0
St. Stephen's, Wandsworth	36	0	0
Central Hill Baptist Church, Norwood	35	0	0
St. George's, Campden Hill	33	0	0
St. Saviour's, Denmark Park	33	0	0
St. Mary Magdalen, Wandsworth Common	33	0	0
St. Luke's, Hornsey	32	0	0
St. Paul's, Forest Hill	31	0	0
St. James's, Notting Hill, and St. Gabriel's	31	0	0
Finchley Parish Church	31	0	0
All Saints', Friern Barnet	30	0	0
Christ Church and St. Andrew's, Southgate	30	0	0
Merton Parish Church...	29	0	0
Mill Hill Parish Church	29	0	0
Parish Church and Chapels, Ilford	29	0	0
St. Peter's, Clapham	29	0	0
Church of the Holy Redeemer, Chelsea	27	0	0
St. James's, Garlickhithe	26	0	0
All Saints', Norfolk-square	25	0	0
St. Andrew's, Whitehall Park	25	0	0
St. George's, Tufnel Park	25	0	0
H. Dent Brocklehurst, Esq.	25	0	0
St. Peter's, Walton-on-the-Hill	25	0	0
Totteridge Parish Church	25	0	0
Christ Church, Woburn-square	24	0	0
Emmanuel Church, Northwood	24	0	0
St. Augustine's, *Grove Park*...	24	0	0
St. Mary (Old Church), Stoke Newington	23	0	0
Christ Church, Wanstead	23	0	0
St. Matthew's, Redhill	23	0	0
Highgate Wesleyan Methodist Church	22	0	0
St. Luke's, West Norwood	22	0	0
St. Peter's, Hersham (moiety)	22	0	0
Keston Parish Church...	21	0	0
Muswell Hill Presbyterian Church	21	0	0
St. Mary's, Putney	21	0	0
F. Aveline Aramayo, Esq.	20	0	0
Chapel of the Charterhouse	20	0	0
Holy Trinity, Dartford	20	0	0
St. Luke's, Reigate	20	0	0
St. Matthew's, Ealing Common	20	0	0
St. Jude's, Bethnal *Green*	13	0	0
St. Peter's Presbyterian Church, Upper Tooting	13	0	0
St. Stephen's, Hounslow	12	0	0
Wanstead Parish Church	12	0	0
Catholic Apostolic Church, Hampstead	11	0	0
St. Michael Royal, Cannon-street	11	0	0
Sunfielde Wesleyan Church, Blackheath...	11	0	0
St. Benet's, Stepney	10	0	0
St. Jude's, Mildmay Park	10	0	0
St. Michael's, Wood Green	10	0	0

SOME ORIENTAL SUPERSTITIONS IN MATTERS OF THE HEALING ART.

AN interesting lecture delivered recently by Dr. David Sandler at the residence of the American Consul-General in Constantinople dealt with the Oriental superstitions which are met with constantly by medical men *practising* in the Near East and which frequently result in serious consequences to persons suffering from *injury or disease* who are "treated" by "magical" methods as the result of such beliefs. Dr. Sandler considers that the Oriental mind is so attracted by the supernatural that it is unable to widen the spiritual horizon and to look for natural and reasonable interpretations of material phenomena. It is a mind completely unable to grasp the orderly sequence of cause and effect which is the basis of all scientific conceptions. Untrained and uninitiated into such methods of *rational* associations, it pins its faith, oftentimes uncommonly strong and fierce in all its crude savagery, to primitive incongruities of belief and magical formulæ. It would almost seem that the more incongruous and incomprehensible a belief may be the more chance it has to lodge itself definitely in the Oriental mind as completely rational and worthy of the highest respect. Nowhere is this fact more clearly apparent than in matters of the healing art. Dr. Sandler gave a simple illustration. A stone strikes some part of the body of an Oriental and inflicts a wound. The train of ideas that this accident would produce in his mind would run something like this: The stone is the cause of pain, the cause of the wound. It is the principal origin of the trouble. But the essence of every origin is hidden, secret and therefore sacred. The stone becomes an awe-inspiring fetish. The wound is neglected. The fetish has to be propitiated. This simple illustration is borne out and supported by every-day experiences which medical men encounter in the East. Another instance may be derived from amongst the lower classes of the Greek population of Constantinople. A child falls and cuts his head. The first thought of the parent is to be sure not to wash and to bind up the wound, still less to call medical assistance, however grave the cut may turn out to be. This is always an after-thought, which very often comes so late that the help of a surgeon can prove of no use. The first thing the father or mother of the injured child thinks of doing is to pour over the shoulder upon the place of the accident a libation of wine or sugared water and to whisper, in performing this, some mysterious formula of incantation, an ancestral formula supposed to possess supernatural efficacy against every form of evil.

The Moslems are addicted to the queerest practices for purposes of healing or alleviating bodily pain. A Turk, for instance, in distress or suffering from some disease, however severe, knows of no better remedy than to fix a piece of his dress, torn off with true Oriental equanimity, to an iron bar of some saint's tomb, or to drink water from a tumbler into which he has previously put a sheet of paper with writings from the Koran. Sometimes he will take a jar, the interior of which has been written all over with strange formulæ and signs. He will then fill it with water, wait till these formulæ and signs have been thoroughly dissolved, and drink the singular solution with an absolute faith in its wonder-working efficacy. Sheltered by the sombre cypresses of the great Mahomedan cemetery at Scutari (the ancient Chrysopolis on the Asiatic coast of the Bosphorus) there stands in picturesque solitude the tomb of a horse. Every Friday afternoon Turkish mothers carry to that tomb their crippled children to be submitted by a select "khodja" (priest) to an extraordinary course of treatment. These children are dragged, with their diseased limbs dangling over the hillock, from one end of the tomb to the other and then back again in the same fashion. The occult influence emanating from this hillock is supposed to be an all-efficient panacea. It is not difficult to trace in this case the crude, imperfect association of ideas. The horse has long been considered an emblem of vigour, typifying, as Ruskin says, "the flow and force of life." Hence the belief of the Oriental, inherited, no doubt, from the Greeks, in the all-conquering virtue and influence of occult and mysterious effluvia which are supposed to emanate constantly from a horse's tomb.

The wearing of a necklace of blue beads or of garlic as a potent means of keeping away disease or of warding off the evil eye is quite a universal matter of sincere belief in the whole of Turkey. This superstition is shared, as is well known, by the lower classes of many a country in civilised Western Europe. There, however, it is not so universal and flagrant as in the Orient. There is scarcely a house in the Moslem, Greek, and Armenian districts of the population of Constantinople which has not hanging above its entrance door a collection of garlic, and scarcely a beast of toil which has not attached to some part of it a string of blue beads. Among the uneducated it is impossible to find an individual who does not pin his absolute faith to the all-healing power of such charms, especially of blue beads, which are supposed to be an unfailing panacea against every possible ill. Less general is the belief in the East in the baleful influence of the planets Saturn and Mars upon the constitution of the human body, upon its *four cardinal* humours, blood, phlegm, yellow bile, and black bile. These planets are considered by *some Orientals*, especially in the far South, as the unmistakeable causes of all sorts of ailments. Woe is unto him who begins any work when Saturn or Mars is in the ascendant.

Among the terrible practices by means of which diseases, such as pneumonia or diphtheria, are believed by the Oriental *to yield* unvaryingly is the application of a red-hot iron to the abdomen of the bed-ridden patient. By this means "the beastly influence," which is supposed to have settled in the diseased person, is expected to be expelled. On one or two occasions Dr. Sandler has seen traces of this barbarous mode of treatment on the bodies of helpless children of a very tender age. Should the unhappy martyr be brought by such ruthless artifice to the brink of death no better remedy is known of than to send speedily for a priest who is expected, for a consideration, of course, to cure the patient by mysterious and meaningless invocations.

Thaumaturgy has a potent influence with the Oriental's disposition; he therefore despises simplicity and gives credit and preference to the mysterious and the complex. Give him a colourless and tasteless medicine and his faith in it, as well as his confidence in the medical man, will at once be shaken. "It is too plain, too artless to be of any use," he will think. But let the prescription be several inches long; let it include a dozen, or even more, of different substances; let these substances be as rare as possible, as bitter or acrid as possible, or even as disgusting as possible, and the Oriental will take them with fullest confidence and think wonders of the physician's skill and learning. He has, in fact, the same notions of the practice of medicine as were held universally by Europeans in the Middle Ages, lingered on amongst the educated classes into the seventeenth and even the eighteenth centuries, and in an attenuated and shamefaced form have not yet entirely died out, as witness the ancient practice of wearing amulets which was revived in this country some few years ago for the relief of rheumatism.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest towns 8820 births and 3664 deaths were registered during the week ending June 27th. The annual rate of mortality in these towns, which had declined in the eight preceding weeks from 15·7 to 11·6 per 1000, rose again to 11·8 in the week under notice. During the 13 weeks of the past quarter the annual death-rate in these towns averaged only 13·8 per 1000, and in London during the same period the rate did not exceed 13·3. The lowest annual death-rates in the 76 towns during the week under notice were 5·2 in Walthamstow, 6·1 in Handsworth and in Newport (Mon.), and 6·6 in Tynemouth; the rates in the other towns ranged upwards, however, to 19·8 in Wigan, 20·6 in St. Helens, 21·6 in Stockton-on-Tees, and 24·5 in Hanley. The death-rate in London during the week did not exceed 10·8. The 3664 deaths in the 76 towns during the week showed an increase of but 42 upon the low number in the previous week, and included but 296 deaths which were referred to the principal epidemic diseases, a lower number than in any previous week of this year; of these 296 deaths, 82 resulted from measles, 73 from whooping-cough, 70 from diarrhœa, 35 from diphtheria, 21 from scarlet fever, and 15 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to a mean annual rate of but 1·0 per 1000, corresponding with the low rate from the same diseases in each of the two preceding weeks; the rate from these diseases in London was again so low as 0·8. No death from any of these epidemic diseases was registered last week in Oldham, Walthamstow, Plymouth, Halifax, and in 12 other smaller towns; the annual death-rate from these diseases ranged upwards, however, to 3·1 in Hanley and in Bootle, 3·3 in East Ham, 4·1 in Rotherham, and 4·2 in Barrow-in-Furness. The fatal cases of measles in the 76 towns, which had been 89 and 86 in the two preceding weeks, further declined to 82 in the week under notice, but caused death-rates equal to 1·3 in West Ham and in Preston and 1·5 in Stockport. The 73 deaths from whooping-cough showed an increase of five upon the number in the previous week and caused the highest death-rates, 1·7 in Barrow-in-Furness, 2·0 in Merthyr-Tydfil, 2·3 in Hanley, and 3·3 in Rotherham. The 70 deaths attributed to diarrhœa showed a further slight increase upon recent weekly numbers, and caused the highest death-rates, 1·5 in Bootle and in Blackburn. The 35 fatal cases of diphtheria corresponded with the number in the previous week and caused death-rates equal to 1·0 in Sunderland and 2·2 in East Ham. The 21 deaths from scarlet fever, including seven in London and four in Liverpool, were fewer than in any previous week of this year. The 15 deaths referred to "fever" corresponded with the number in the previous week, and again included three in Norwich, equal to an annual rate of 1·3 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had declined in the eight preceding weeks from 2938 to 2565, had further fallen to 2553 on June 27th; 365 new cases of this disease were, however, admitted to these hospitals during the week under notice, against 289 and 310 in the two preceding weeks. The deaths in London referred to pneumonia and to other diseases of the respiratory organs, which had steadily declined in the nine preceding weeks from 301 to 115, further fell to 107 in the week under notice, and were 44 below the corrected number in the corresponding week of the five years 1903-07. Eight deaths in London were again directly referred to influenza during the week. The causes of 33, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in London, Leeds, West Ham, Bradford, Newcastle-on-Tyne, Hull, and in 52 other smaller towns; eight uncertified causes of death were, however, registered during the week in Liverpool, four in Birmingham, and three of the 19 deaths in Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 13·2 and 14·7 per 1000 in the two preceding weeks, declined again to 14·5 in the week ending June 27th. During the 13 weeks of the past quarter the annual death-rate in these eight towns averaged 16·4 per 1000, and exceeded by no less than 2·6 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates during the week under notice ranged from 9·9 and 11·1 in Leith and Aberdeen to 17·8 in Perth and 19·2 in Dundee. The 510 deaths in the eight towns showed a decline of seven from the number in the previous week, and included 40 which were referred to the principal epidemic diseases, against 42 and 51 in the two preceding weeks; of these 40 deaths, 16 resulted from diarrhœa, 12 from whooping-cough, seven from measles, four from "fever," and one from scarlet fever, but not one either from diphtheria or small-pox. These 40 deaths were equal to an annual rate of 1·1 per 1000, the mean rate from the same diseases in the 76 English towns during the same week being 1·0. The 16 deaths attributed to diarrhœa exceeded the number in any recent week, and included six in Glasgow, three in Dundee and in Greenock, and two in Edinburgh. The fatal cases of whooping-cough, which had been 11 and 20 in the two previous weeks, declined again to 12 in the week under notice; four were returned in Aberdeen and three both in Dundee and in Glasgow. The seven deaths from measles were considerably below the numbers in the two preceding weeks, but included four in Glasgow and two in Edinburgh. The fatal cases of "fever," which had been two and five in the two previous weeks, declined again to four in the week under notice; they included two of cerebro-spinal meningitis and one of enteric fever in Glasgow, and a fatal case of cerebro-spinal meningitis in Edinburgh. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 51 and 73 in the two preceding weeks, declined again to 67 in the week under notice, and were seven below the number returned in these towns in the corresponding week of last year. The causes of 13, or 2·5 per cent., of the deaths registered in the eight towns during the week were not stated or not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·2 and 16·5 per 1000 in the two preceding weeks, further declined to 16·0 in the week ending June 27th. During the 13 weeks of the past quarter the death-rate in Dublin averaged 20·4 per 1000; the mean rate during the same period did not exceed 13·8 in London and 15·5 in Edinburgh. The 160 deaths of Dublin residents registered in the week under notice showed a further decline of four from the numbers returned in the two preceding weeks, and included 11 which were referred to the principal epidemic diseases, against six and 14 in the two previous weeks. These 11 deaths were equal to an annual rate of 1·5 per 1000, the rate during the week from the same diseases being only 1·0 in London and 0·9 in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin, four resulted from measles, four from diarrhœa, two from diphtheria, and one from "fever," but not one from whooping-cough, scarlet fever, or small-pox. The fatal cases of measles showed a decline of one, while the deaths attributed to diarrhœa corresponded with the number in the previous week. The 121 deaths from all causes in the city during the week included 25 of infants under one year of age and 42 of persons aged upwards of 60 years; the deaths of elderly persons showed a considerable increase upon the low numbers in recent weeks. Five inquest cases and three deaths from violence were registered, and 61, or 50·4 per cent., of the deaths registered during the week occurred in public institutions. The causes of three, or 2·4 per cent., of the deaths registered during the week were not certified. The causes of all the 991 deaths registered in London during the week were duly certified, while in Edinburgh the proportion of uncertified causes of death was equal to 6·2 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: F. J. Burns to the *Royal Arthur*, additional, for the *Edgar*, temporarily, for manœuvres; B. F. Parish to the *Europa*, additional, for the *Sirius*, temporarily, for manœuvres; and C. G. Matthew to the *Fisgard*. Staff-Surgeons: J. Stoddart, to the *Europa* for the *Æolus*, while on special service at Avonmouth; R. M. Richards to the *Latona*, temporarily, for manœuvres; M. J. Smith to the *Gibraltar*; and E. S. Reid, lent to Deptford Victualling Yard, temporarily. Surgeons: W. N. L. Cherry to the *Gibraltar*; J. G. Peebles to the Royal Marine Infirmary, Chatham; and J. R. A. Clark-Hall to the *Vivid*, additional, for disposal.

ARMY MEDICAL SERVICE.

Lieutenant-Colonel Louis E. Anderson, from the Royal Army Medical Corps, to be Colonel, vice H. Martin, deceased (dated June 5th, 1908).

ROYAL ARMY MEDICAL CORPS.

Captain C. R. Hime has been appointed Adjutant at the Depôt, Aldershot. Captain G. J. Delap, D.S.O., has been appointed a company commander at the Aldershot Depôt, vice Captain C. R. Hime.

Major George Raymond retires on retired pay (dated June 27th, 1908). Captain Lewis J. C. Hearn, from temporary half-pay, is placed on retired pay (dated June 27th, 1908).

Lieutenant Charles M. Drew is seconded for service with the Egyptian Government (dated June 9th, 1908).

INDIAN MEDICAL SERVICE.

The King has approved of the following promotion in the Indian Medical Service:—To be Surgeon-General: Colonel Percy Hugh Benson (dated April 1st, 1908).

His Majesty has also approved of the retirement of the following officers: Lieutenant-Colonel Charles Henry Bennett (dated Feb. 11th, 1908). Lieutenant-Colonel Jarlath ffrench-Mullen (dated May 25th, 1908).

ROYAL ARMY MEDICAL CORPS SCHOOL OF INSTRUCTION.

Captain George G. Delap, D.S.O., R.A.M.C., to be Assistant Instructor, vice Captain H. C. R. Hime (dated June 15th, 1908).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Richard H. Luce to be Surgeon-Major (dated June 17th, 1908).

THE TERRITORIAL FORCE.

Royal Army Medical Corps.

Yorkshire Mounted Brigade Field Ambulance: Captain William Kitson Clayton, from the South Yorkshire Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908). Captain (Honorary Captain in the Army) George Gardner Oakley, from the West Yorkshire Bearer Company, Royal Army Medical Corps (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Lieutenant Alexander Wetherhead French, from the South Yorkshire Bearer Company, Royal Army Medical Corps (Volunteers), to be Captain (dated April 1st, 1908).

1st Northumbrian Field Ambulance: Surgeon-Captain John Clay, from the 2nd Volunteer Battalion, The Northumberland Fusiliers, to be Major (dated April 1st, 1908). Surgeon-Captain Frederick Newman Grinling, from the 2nd Volunteer Battalion, The Northumberland Fusiliers, to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Lieutenant Frank Hawthorn, from the 1st Newcastle-on-Tyne Royal Garrison Artillery (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). John Maxwell Gover to be Lieutenant (dated April 1st, 1908). James Willie Heslop to be Lieutenant (dated April 25th, 1908). James Percy Milne to be Lieutenant (dated April 25th, 1908). William Simpson to be Lieutenant (dated April 25th, 1908). Frederic George Armstrong to be Lieutenant (dated April 25th, 1908).

2nd Northumbrian Field Ambulance: Surgeon-Captain Laurence James Blandford, from the 1st Volunteer Battalion, The Durham Light Infantry, to be Major (dated April 1st, 1908). The undermentioned officers from the 1st Volunteer Battalion, The Durham Light Infantry, to be Lieutenants, with precedence as in the Volunteer Force: Surgeon-Lieutenant Henry Carden Pearson (dated April 1st, 1908). Surgeon-Lieutenant Duncan Alexander Cameron (dated April 1st, 1908). Surgeon-Lieutenant Douglas Vercoe Haig (dated April 1st, 1908). Surgeon-Lieutenant David Leonard Fisher (dated April 1st, 1908). Surgeon-Lieutenant George Greig Farquhar (dated April 1st, 1908). James Donald Sinclair to be Lieutenant (dated April 1st, 1908).

3rd Northumbrian Field Ambulance: Surgeon-Major Henry George Falkner, from the 1st Volunteer Battalion, The East Yorkshire Regiment, to be Lieutenant-Colonel (dated April 1st, 1908). Surgeon-Captain Arthur Tinsley Sissons, from the 1st Volunteer Battalion, The East Yorkshire Regiment, to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). The undermentioned officers, from the 1st Volunteer Battalion, The East Yorkshire Regiment, to be Lieutenants, with precedence as in the Volunteer Force: Surgeon-Lieutenant Oswald Lucas Appleton (dated April 1st, 1908). Surgeon-Lieutenant Percy Roberts Ash (dated April 1st, 1908).

1st West Riding Field Ambulance: Captain Algernon Edward Luke Wear, from the Northern Command, Leeds Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908). Lieutenant Alexander Dunstan Sharp, from the Northern Command, Leeds Companies, Royal Army Medical Corps (Volunteers), to be Captain (dated April 1st, 1908). Surgeon-Lieutenant Alexander Brodie Seton Stewart, from the 2nd (Leeds) Yorkshire (West Riding) Royal Engineers (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). James Ewing to be Lieutenant (dated April 1st, 1908).

2nd West Riding Field Ambulance: Captain William McGregor Young, from the Northern Command, Leeds Companies, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908). The following officers from the Northern Command, Leeds Companies, Royal Army Medical Corps (Volunteers), to be Captains (dated April 1st, 1908): Lieutenant Harold Collinson and Lieutenant Frederick Whalley.

North Midland Mounted Brigade Field Ambulance: Surgeon-Captain Thomas Thompson, from the 1st Volunteer Battalion, The South Staffordshire Regiment, to be Major (dated April 1st, 1908). Arthur Avent to be Lieutenant (dated May 8th, 1908).

1st North Midland Field Ambulance: Captain and Honorary Major Richard Harman Luce, from the Sherwood Foresters Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908). Captain William James Reid, from the Sherwood Foresters Bearer Company, Royal Army Medical Corps (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Lieutenant Ernest Arnold Wraith, from the Sherwood Foresters Bearer Company, treatment on the bodies of helpless children of a very tender age. Should the unhappy martyr be brought by such ruthless artifice to the brink of death no better remedy is known of than to send speedily for a priest who is expected, for a consideration, of course, to cure the patient by mysterious and meaningless invocations.

Thaumaturgy has a potent influence with the Oriental's disposition; he therefore despises simplicity and gives credit and preference to the mysterious and the complex. Give him a colourless and tasteless medicine and his faith in it, as well as his confidence in the medical man, will at once be shaken. "It is too plain, too artless to be of any use," he will think. But let the prescription be several inches long; let it include a dozen, or even more, of different substances; let these substances be as rare as possible, as bitter or acrid as possible, or even as disgusting as possible, and the Oriental will take them with fullest confidence and think wonders of the physician's skill and learning. He has, in fact, the same notions of the practice of medicine as were held universally by Europeans in the Middle Ages, lingered on amongst the educated classes into the seventeenth and even the eighteenth centuries, and in an attenuated and shamefaced form have not yet entirely died out, as witness the ancient practice of wearing amulets which was revived in this country some few years ago for the relief of rheumatism.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest towns 8820 births and 3664 deaths were registered during the week ending June 27th. The annual rate of mortality in these towns, which had declined in the eight preceding weeks from 15·7 to 11·6 per 1000, rose again to 11·8 in the week under notice. During the 13 weeks of the past quarter the annual death-rate in these towns averaged only 13·8 per 1000, and in London during the same period the rate did not exceed 13·3. The lowest annual death-rates in the 76 towns during the week under notice were 5·2 in Walthamstow, 6·1 in Handsworth and in Newport (Mon.), and 6·6 in Tynemouth; the rates in the other towns ranged upwards, however, to 19·8 in Wigan, 20·6 in St. Helens, 21·6 in Stockton-on-Tees, and 24·5 in Hanley. The death-rate in London during the week did not exceed 10·8. The 3664 deaths in the 76 towns during the week showed an increase of but 42 upon the low number in the previous week, and included but 296 deaths which were referred to the principal epidemic diseases, a lower number than in any previous week of this year; of these 296 deaths, 82 resulted from measles, 73 from whooping-cough, 70 from diarrhœa, 35 from diphtheria, 21 from scarlet fever, and 15 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to a mean annual rate of but 1·0 per 1000, corresponding with the low rate from the same diseases in each of the two preceding weeks; the rate from these diseases in London was again so low as 0·8. No death from any of these epidemic diseases was registered last week in Oldham, Walthamstow, Plymouth, Halifax, and in 12 other smaller towns; the annual death-rate from these diseases ranged upwards, however, to 3·1 in Hanley and in Bootle, 3·3 in East Ham, 4·1 in Rotherham, and 4·2 in Barrow-in-Furness. The fatal cases of measles in the 76 towns, which had been 89 and 86 in the two preceding weeks, further declined to 82 in the week under notice, but caused death-rates equal to 1·3 in West Ham and in Preston and 1·5 in Stockport. The 73 deaths from whooping-cough showed an increase of five upon the number in the previous week and caused the highest death-rates, 1·7 in Barrow-in-Furness, 2·0 in Merthyr-Tydfil, 2·3 in Hanley, and 3·3 in Rotherham. The 70 deaths attributed to diarrhœa showed a further slight increase upon recent weekly numbers, and caused the highest death-rates, 1·5 in Bootle and in Blackburn. The 35 fatal cases of diphtheria corresponded with the number in the previous week and caused death-rates equal to 1·0 in Sunderland and 2·2 in East Ham. The 21 deaths from scarlet fever, including seven in London and four in Liverpool, were fewer than in any previous week of this year. The 15 deaths referred to "fever" corresponded with the number in the previous week, and again included three in Norwich, equal to an annual rate of 1·3 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had declined in the eight preceding weeks from 2938 to 2565, had further fallen to 2553 on June 27th; 365 new cases of this disease were, however, admitted to these hospitals during the week under notice, against 289 and 310 in the two preceding weeks. The deaths in London referred to pneumonia and to other diseases of the respiratory organs, which had steadily declined in the nine preceding weeks from 301 to 115, further fell to 107 in the week under notice, and were 44 below the corrected number in the corresponding week of the five years 1903-07. Eight deaths in London were again directly referred to influenza during the week. The causes of 33, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in London, Leeds, West Ham, Bradford, Newcastle-on-Tyne, Hull, and in 52 other smaller towns; eight uncertified causes of death were, however, registered during the week in Liverpool, four in Birmingham, and three of the 19 deaths in Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 13·2 and 14·7 per 1000 in the two preceding weeks, declined again to 14·5 in the week ending June 27th. During the 13 weeks of the past quarter the annual death-rate in these eight towns averaged 16·4 per 1000, and exceeded by no less than 2·6 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates during the week under notice ranged from 9·9 and 11·1 in Leith and Aberdeen to 17·8 in Perth and 19·2 in Dundee. The 510 deaths in the eight towns showed a decline of seven from the number in the previous week, and included 40 which were referred to the principal epidemic diseases, against 42 and 51 in the two preceding weeks; of these 40 deaths, 16 resulted from diarrhœa, 12 from whooping-cough, seven from measles, four from "fever," and one from scarlet fever, but not one either from diphtheria or small-pox. These 40 deaths were equal to an annual rate of 1·1 per 1000, the mean rate from the same diseases in the 76 English towns during the same week being 1·0. The 16 deaths attributed to diarrhœa exceeded the number in any recent week, and included six in Glasgow, three in Dundee and in Greenock, and two in Edinburgh. The fatal cases of whooping-cough, which had been 11 and 20 in the two previous weeks, declined again to 12 in the week under notice; four were returned in Aberdeen and three both in Dundee and in Glasgow. The seven deaths from measles were considerably below the numbers in the two preceding weeks, but included four in Glasgow and two in Edinburgh. The fatal cases of "fever," which had been two and five in the two previous weeks, declined again to four in the week under notice; they included two of cerebro-spinal meningitis and one of enteric fever in Glasgow, and a fatal case of cerebro-spinal meningitis in Edinburgh. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 51 and 73 in the two preceding weeks, declined again to 67 in the week under notice, and were seven below the number returned in these towns in the corresponding week of last year. The causes of 13, or 2·5 per cent., of the deaths registered in the eight towns during the week were not stated or not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·2 and 16·5 per 1000 in the two preceding weeks, further declined to 16·0 in the week ending June 27th. During the 13 weeks of the past quarter the death-rate in Dublin averaged 20·4 per 1000; the mean rate during the same period did not exceed 13·8 in London and 15·5 in Edinburgh. The 160 deaths of Dublin residents registered in the week under notice showed a further decline of four from the numbers returned in the two preceding weeks, and included 11 which were referred to the principal show upwards of 40 portraits, many of them of great interest and a few unique. They are grouped under the heads of Xanthelasma and its variations, including the sebaceous and sudoriparous forms; Icteric xanthoma and Glycosuric xanthoma. I must not trespass further on your space than to add that both these exhibitions must be removed in a week or two and that meanwhile anyone wishing to inspect them will be welcome at the Polyclinic, 22, Chenies-street, Gower-street.—I am, Sir, yours faithfully,

JONATHAN HUTCHINSON.

June 29th, 1908.

PRIMITIVE MIDWIFERY IN SOUTH CHINA.

To the Editor of THE LANCET.

SIR,—In the very interesting paper by Professor J. B. Hellier on the Methods of Primitive Midwifery, published in THE LANCET of Feb. 8th, p. 419, the suggestion was made that some readers who have the opportunity of first-hand study of the practices referred to should record their personal experiences. The following observations apply to South China where I am engaged in hospital work. In North and Central China the conditions are different. There, as a rule, women only are allowed to attend to cases of childbirth. Here it is customary for midwifery operations to be undertaken by men as well, and no objection is made to their presence. Naturally, in a Chinese inland town one sees cases which, owing to prolonged labour without assistance, are rarely met with in English practice. One of my first introductions to Chinese midwifery work took place in a village where the woman had been in labour for some five days. The child was a monster with one head, two bodies, four arms, and four legs. The uterus was already ruptured and two of the legs had gone through the rent. Fortunately the resisting powers of the Chinese peasant woman are great. She lives a much more natural life than her Western sisters, and if she has to do more than her share of the rough work in the fields she reaps the benefit when the time comes for the birth of a child.

Professor Hellier divides the development of obstetrics into three stages. China is undoubtedly still in the primitive stage, characterised by an entire absence of knowledge of anatomy and the mechanism of labour. Native doctors, for instance, are taught that in normal labour the child makes its first appearance with the face looking to one side. If it looks downwards it portends the death of the father; if upwards, it portends that of the mother. The treatment resorted to is often cruel in the extreme and as senseless as cruel. It is indeed a wonder that the inhabitants of a country which has been civilised for so many centuries and has shown so much ingenuity and inventive power in the past should have failed to grasp the very elements of midwifery practice.

There is probably no race more fond of all sorts of medicine than the Chinese. Pills, plasters, ointments, concoctions of every variety are always acceptable by the sick Celestial. Consequently one is not surprised at the large number of internal and external remedies for difficult labour. Most of these are given with a view to strengthening the pains. The administration of urine, mentioned by Professor Hellier, is not confined to the Dutch East Indies. In South China it is a well-recognised remedy. But it is always children's urine that is drunk, and almost invariably that of a little boy. Contrary to what one might expect, opium is rarely given. A pheasant ripped open while still alive and placed on the abdomen is supposed to be efficacious, but not so much so as a tiger's intestines. These are worn round the neck with the ends hanging down. Being an expensive remedy, they are usually borrowed for the occasion from some neighbouring medicine shop which keeps them in stock. The midwife is usually an old woman of most uncleanly habits who probably has been summoned from her fields for the occasion and who has had neither time nor inclination to first wash her hands. Even in normal labour she is responsible for a lot of suffering, but it is when delivery is delayed that she does most harm. There are no forceps in Chinese native practice. If the child does not appear after what is judged to be the proper time the midwife inserts her hand and attempts to pull at the first thing she can catch hold of. On one occasion I was called to a case of placenta prævia where the woman had been bleeding badly for some 60 hours. Largely owing to the attentions of the midwives, I found presenting at the vulva the cord, a piece of the placenta, one foot, and two arms. If pulling at the first part which comes to hand prove unsuccessful recourse is had to a knife and the whole vulva is often torn and cut in a most barbarous manner, the urethra not infrequently being irremediably damaged. On two or three occasions I have seen the vulva and the rectum made into one large cavity and the woman almost pulseless from loss of blood. I have felt incisions all round the cervix comparable to the first steps of vaginal hysterectomy. Once I found that somehow or other the native doctor had forced apart the symphysis pubis so that there was a space of an inch between the two pubic bones and a finger could be inserted for two and a half inches into the cavum Retzii.

With such methods of treatment, transverse presentations are naturally very dangerous, and as a matter of fact such cases, not within reach of a foreign-trained doctor, almost invariably die. The treatment pursued is to place a little rice or a few cash into the hand and then to push it back with the idea apparently that having received a present the child will consent to come down in the right way. The next step is to pull on the hand. Sometimes the other arm is brought down, making delivery more difficult still, but I have only seen this once. Usually the further treatment of the case resolves itself into pulling more and more energetically until the woman dies from exhaustion or ruptured uterus. Embryotomy is never done purposely. Sometimes an energetic midwife will open the head in her endeavour to deliver, but this is considered bad practice. As a rule, in cases of impacted head injuries to the child due to the midwife are confined to the scalp, which may be torn right off.

The Chinese have a great horror of a woman dying with the child still unborn. In not a few cases the foreign doctor arrives upon the scene when the woman is just on the point of death. Naturally, in these circumstances, one does not like to interfere, especially if the woman happens to live in a distant village where no foreigner has been before and where consequently there is a crowd of some hundreds of interested onlookers outside the door. The greatest pressure is brought to bear upon the doctor to undertake the case. The oldest man in the family, of most venerable appearance, will come personally to make the request. Once I have had my chair sent away with the intention of keeping me in the house until the child was born. The death of the woman seems unimportant compared to the necessity of delivering the child. A woman who dies in childbirth with the child undelivered is supposed always to remain in hell, and her spirit, never at rest, is believed constantly to harass the family and bring all manner of ill-fortune upon each member. With a view to avoiding this the Chinese sometimes perform Cæsarean section. I have never heard of the operation being attempted when the woman is alive. It is done after death. The operation is performed by one of the local coffin-bearers who form, perhaps, the most degraded class in Chinese society. A nurse informs me that the customary fee is five Mexican dollars, about a month's wages for an ordinary coolie.

A curious superstition among the Chinese women is that sometimes the child is born viâ the rectum. To prevent this some Chinese women refuse to lie down for delivery but sit firmly on their wooden bedboards until the head appears. A few months ago at the house of the local chief magistrate we had for this reason great difficulty in persuading a woman to allow us to attend to her in the ordinary position. I remember this case well as the chief lady of the Yamen was herself an amateur Chinese doctor. She dosed the other women of the establishment with their children, like Mrs. Squeers, and they dare not refuse. I was told privately that she had already killed five or six infants in this way. At the time of the operation it was not etiquette for her or the other wives to be present. I thought I heard some breathing behind my back and looking round found a screen through which several holes had been bored. At each hole there appeared an eye!

As a rule the Chinese midwife does not pull upon the cord in a case of normal labour, and it is to her credit that she will wait for two or three hours for the placenta to be delivered naturally. The woman is given various drugs and

Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908).

2nd North Midland Field Ambulance: Captain William Pemberton Peake, from the Leicester and Lincoln Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908). The following officers, from the Leicester and Lincoln Bearer Company, Royal Army Medical Corps (Volunteers), are appointed to the Field Ambulance with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Captain Montague Shirley Wyatt Gunning and Lieutenant Alastair MacGregor. James Robert Plant to be Lieutenant (dated April 1st, 1908).

3rd North Midland Field Ambulance: Captain Howard Henry Congreve Dent, from the Staffordshire Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908).

1st South Midland Field Ambulance: Captain Arthur Roscoe Badger, from the Worcester and Warwick Bearer Company, Royal Army Medical Corps (Volunteers), to be Major (dated April 1st, 1908). Surgeon-Captain Cyril Henry Howkins, from the 1st Volunteer Battalion, The Royal Warwickshire Regiment, to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Lieutenant George William Craig, from the Worcester and Warwick Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Lieutenant Seymour Gilbert Barling, from the 1st Volunteer Battalion, The Royal Warwickshire Regiment, to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Cyril Reginald Lunn to be Lieutenant (dated April 1st, 1908). William Malcolm Sturrock to be Lieutenant (dated April 1st, 1908). William McCall to be Lieutenant (dated April 1st, 1908).

2nd South Midland Field Ambulance: Surgeon-Major Charles Thomas Griffiths, from the 1st Volunteer Battalion, The South Staffordshire Regiment, to be Lieutenant-Colonel (dated 1st April, 1908). William Algernon Louis Holland to be Lieutenant (dated April 1st, 1908). John Henry Hobling to be Lieutenant (dated April 1st, 1908). Alfred Alwyne Hingston to be Lieutenant (dated April 1st, 1908).

3rd South Midland Field Ambulance: Surgeon-Lieutenant-Colonel Arthur William Prichard (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Portland Volunteer Infantry Brigade), from the 1st (City of Bristol) Volunteer Battalion, The Gloucestershire Regiment, to be Lieutenant-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Captain James Young, from the 1st (City of Bristol) Volunteer Battalion, The Gloucestershire Regiment, to be Major (dated April 1st, 1908). Bertram Mitford Heron Rogers to be Lieutenant (dated April 1st, 1908). James Smith Mather to be Lieutenant (dated April 1st, 1908). Thomas Arthur Green to be Lieutenant (dated April 1st, 1908). Percy Moxey to be Lieutenant (dated 1st April, 1908).

3rd Home Counties Field Ambulance: Major and Honorary Lieutenant-Colonel John James de Zouche Marshall, from the East Surrey Bearer Company, Royal Army Medical Corps (Volunteers), to be Lieutenant-Colonel (dated April 1st, 1908).

QUEEN ALEXANDRA'S IMPERIAL MILITARY NURSING SERVICE.

With reference to the recent notification that the Army Council had decided to form a reserve of nurses in order to provide for the necessary expansion of *personnel* on the outbreak of war, the Secretary of the War Office announces that regulations for this reserve have now been approved. Among them are the following. A candidate must be between 26 and 45 years of age, single or widow, and possess a certificate of not less than three years' training and service in a civil general hospital or Poor-law infirmary recognised by the Local Government Board as a nurse-training school. Members will be enrolled for a period of three years and must agree to serve at home or abroad as required. An annual retaining fee of £2 will be paid to sisters and staff nurses on the understanding that the grant of this fee to each individual will be reviewed annually. When called upon for duty in military hospitals they will receive the following yearly rates of pay: matron, £75 to £150; sister, £50 to £65; staff nurse, £40 to £45; and the following allowances: (1) allowance in lieu of board and washing—at home 15*s.* a week, abroad 21*s.* a week; or if free messing is provided 3*s.* 6*d.* a week; and (2) clothing allowances—annual clothing and cloak allowance, at home £8, abroad £9; outfit allowances when proceeding on active service, £8 5*s.* On cessation of army employment members whose service has been satisfactory will receive the following gratuities: matron, £15; sister, £10; staff nurse, £7 10*s.* Full particulars and forms of application can be obtained from the Secretary, War Office, Whitehall, London, S.W.

THE BIRTHDAY HONOURS.

The list of birthday honours include the names of Lieutenant-Colonel Johnston Shearer, D.S.O., I.M.S., who has been made a Companion of the Order of the Bath, and of Lieutenant-Colonel Francis F. Perry, I.M.S., Honorary Surgeon to the Viceroy of India, who has been made a Companion of the Order of the Indian Empire.

PRESENTATION TO A VETERAN.

At Llandilo, Carmarthenshire, on June 13th, Brigade-Surgeon Edward Hopkins, A.M.S. (retired), was presented with a life-sized portrait of himself, a tea and coffee service, dinner gong, and a case of silver fish-knives as a mark of respect and esteem by the residents of the district. The portrait shows Mr. Hopkins wearing the old "A.M.D." uniform, with six campaign medals.

Inspector-General of Hospitals and Fleets Robert Grant, R.N. (retired), C.B., has been appointed Deputy Lieutenant for the county of Banff.

Correspondence.

"Audi alteram partem."

SPECIAL EXHIBITIONS AT THE CLINICAL MUSEUM.

To the Editor of THE LANCET.

SIR,—We have recently developed a somewhat novel feature in connexion with the Clinical Museum of the Polyclinic Post-Graduate College. Our museum consists almost exclusively of portraits and of models, &c., illustrating the features of disease in the living subject. These have been collected from all available sources and comprise, in addition to original drawings and photographs, a vast number of engravings, plates, &c., taken from atlases and other published works. The collection has accumulated to such an extent that it has become very difficult to know how to display its contents.

Although our Museum, which was built for the purpose, is large it became very inconveniently crowded. We were reluctant to put the drawings away in portfolios where they must of necessity be comparatively hidden. The expedient devised has been to clear the floor of the museum for the purpose of the temporary display of special collections, allowing the great majority to remain in portfolios. In these special collections we exhibit, in classified order, all that the museum possesses in illustration of the topic concerned. After remaining on display for a month or more these collections are removed to make way for others. We have on display at the present time two collections which must shortly be removed and it is on their account that I now ask your kindly aid to make known to those who have not already visited them that they can be seen for yet another fortnight. One of them concerns the eruptions caused by the attacks of blood-sucking insects and other parasites on the skin. This subject is one which has been comparatively neglected in our systematic works and I feel assured that an inspection of the pictorial illustrations which are here arranged, side by side, will much help the practitioner to a more definite knowledge of a really important class of maladies. It includes many of those which have been comprised under such names as *prurigo*, *lichen*, and *urticaria*, and of those to which the adjectives *urticans*, *urticatus*, *pruriginosus*, *hæmorrhagicus*, *infantilis*, *æstivalis*, &c., have been applied.

Our second special exhibition is of representations of the different forms of Xanthoma and its allies, the eruptions which are associated with disorders of the liver and the circulation of bile elements in the blood. In this collection we

NOTES UPON HEALTH RESORTS.

SCANDINAVIAN WINTER HEALTH STATIONS.

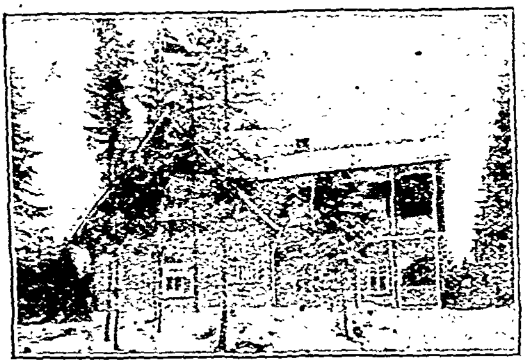
(BY A SPECIAL COMMISSIONER.)

VII.[1]

GOTHENBURG AND DISTRICT.

AFTER Stockholm, Gothenburg is the best centre from which English visitors should explore Sweden. It is easily reached. There are good hotels. Many objects of interest are worthy of a visit, particularly the beautiful Castle Park or Slottskogsparken, the Museum and excellent collection of paintings and sculpture, the Trädgardsföreningen, or gardens of the Horticultural Society, and its extensive general hospital. There is a large and influential colony of English residents in Gothenburg. As a starting point for many interesting excursions by rail or steamer this city presents many advantages. It is also a centre which has been conspicuous in the development of educational and industrial enterprises and has adopted a progressive attitude towards movements aiming at physical and social betterment. The student of medico-sociological problems will find much food for thought in Gothenburg, Sweden's Manchester and Liverpool combined. But it is not with these matters that these articles are concerned. It is desirable that English health and holiday seekers should understand that Gothenburg is the gateway to a district of Sweden which is particularly well suited for health stations, but hitherto almost unknown outside Scandinavia and until recently undeveloped by Swedes themselves. The Göteborg-Boras-Alfvesta railway has opened up Westergotland, a province of Sweden wonderfully rich in natural charms and offering exceptional advantages for the establishment of sanatoriums and health resorts.

FIG. 1.



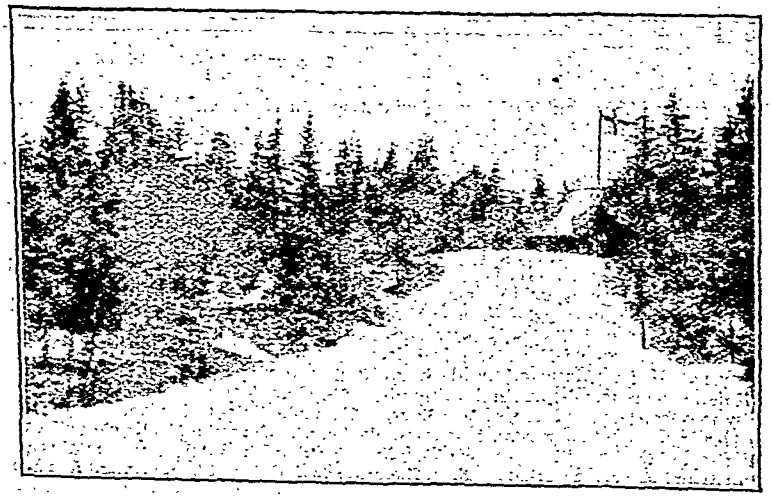
The Sports Club-house at Hindas.

Through the courtesy of Captain Sprinchorn, the general manager of the line, and under the personal guidance of Mr. Charles Östrand, to whose considerate kindness and wide knowledge I am much indebted, was enabled to explore some of the most attractive parts of this picturesque, admirably engineered, and enterprisingly managed railway. I was particularly struck with the advantages offered by two comparatively new and undeveloped centres on this line, and as at both there is accommodation well suited to the requirements of English visitors I propose to describe the chief features of these hitherto almost unknown resorts. It should be understood that for the unconventional explorer of Nature's retreats and for the holiday-maker who would discover new paths and seek out fresh centres far removed from the haunts of the vulgar tripper and the route of the ordinary tourist the Göteborg-Boras-Alfvesta Järnvägar offers unrivalled opportunities. The line was opened for traffic in 1902 and now provides a way into the heart of Southern Sweden, with its highlands of Smaland, intersected by numerous lakes, and forms a route to Carlskrona, Kalmar, and the south-east of Sweden. The line in several sections of its course rises to a considerable altitude and the surrounding country is peculiarly attractive.[2]

HINDAS.

Twenty-two miles from Gothenburg, and distant only three-quarters of an hour's railway journey, the new health station of Hindas is situated. Although at present quite in its infancy this centre promises to be one of considerable importance in the near future. The very railway station is unusual and at once appeals to the artistic visitor. It is built in the old Swedish style with loggia, and its large hall gaily painted and provided with an open fireplace and quaint chandeliers and brackets for electric lamps give it a peculiarly attractive appearance. Hindas lies in the midst of forests and lakes. The latter are well stocked with fish and afford ample sport for the angler. The place seems to have been first discovered a few years ago by some of Gothenburg's enthusiastic ski-touring sportsmen. Its many advantages as a winter sports centre led to the establishment of a club house by the Gothenburg Sports Union. This is one of the most charming of club quarters (Fig. 1). It is a wooden structure of two storeys. Throughout a naturalness and simple artistic fitness have been maintained, while at the same time requirements for comfort and convenience have not been lost sight of. In one corner of the roomy hall is placed an old-fashioned open brick fire-place where pine logs are burned, scenting the interior with their fragrance. The large club-room is typically Swedish with polished floor and wooden furniture coloured green and red.[3] A library is well supplied with sporting literature. On the ground floor are also kitchen, pantry, and toilet rooms. The bedrooms are situated on the first floor and provision is made

FIG. 2.



The ski-jump at Hindas.

---

[1] Nos. I., II., III., IV., V., and VI. were published in THE LANCET of April 25th (p. 1233), May 2nd (p. 1306), 16th (p. 1435), and 30th (p. 1578), and June 13th (p. 1717), and 27th (p. 1875), 1908, respectively.

[2] An illustrated handbook to the line has been published: "En Färd Med Göteborg-Boras och Boras-Alfvesta Jährnvägar." Göteborg: Wettergren and Kerber. Price 75 öre. I understand that an English edition is in preparation.

[3] Good illustrations appear in the Club Year-books: "Göteborgs Idrotts Förbunds Arsskrift" Göteborg: Bröderna Töpels Boktryckeri.

foods. Sometimes she is made to vomit and then, as mentioned by Professor Hellier, her own pigtail may be used for the purpose, being thrust down the throat. Should this be of no avail the cord is pulled upon or a special midwife is summoned who, without any previous cleansing, thrusts her hand into the uterus and brings out parts of the placenta. The umbilical cord is left long. It is not cut with a knife or scissors but severed with a broken piece of crockery or bitten through with the teeth. A large number of children die from infection at the umbilicus. The child is usually washed on the third day after birth. When the next bath is given is very indefinite. The baby is fed with rice and cakes on the first day of its existence. I have noticed that the boat women sometimes chew the rice themselves before giving it to the infant. No doubt this assists the child's digestion by supplying some of the starch-converting ferment which is lacking in the infantile economy, but as a rule the rice and cakes are given in the same way as they would be given to an adult. It is not to be wondered at that in these circumstances the mortality among new-born children from digestive complaints is very great.

I am, Sir, yours faithfully,
PHILIP REES, B.A., B.Sc., M.B. Lond.,
Surgeon to the Customs, Wuchow.
Wesleyan Hospital, Wuchow, China, April, 1908.

TRICHOPHYTON AND MICE.

To the Editor of THE LANCET.

SIR,—It may be of interest to your readers if I mention a coincidence that happened to me in connexion with the above subject. Some three years ago I mounted a section of a mouse's testicle and on examining it found it contained a most perfect specimen of pure culture trichophyton. This specimen was put amongst my collection. Some few weeks ago a medical man sent me two tubes of pure ringworm from London to mount four specimens of trichophyton, four of microsporon; in all I mounted about 20. But there was one beautiful specimen and this I compared with the specimen mounted from the mouse; I find the two specimens are exact.

I am, Sir, yours faithfully,
Maldon, Essex, June 29th, 1903. CHARLES DIBBEN.

*** We understand that in the laboratory at St. George's Hospital there has been an epidemic of trichophyton in the mouse. The condition was at first thought to be favus but culture showed it to be a microsporon. It caused some ulceration, indeed the skull seemed to be destroyed by it in places, and possibly some such similar condition might account for the condition observed by Mr. Dibben in the mouse's testicle.—ED. L.

THE STRAWBERRY SEASON.

To the Editor of THE LANCET.

SIR,—The interesting annotation which appeared in THE LANCET of June 20th *in re* "*the strawberry season*," suggested to me in the course of perusal that some of your readers might be glad to know that the semi-popular idea that the strawberry is "good for the gout"—as well as for some other things—is one which has been stamped with the highest botanical authority. The name of the great Swedish physician Linnæus is pretty surely known to most readers of the present generation only as that of the great student of natural history and founder of the modern science of botany, not of the active medical practitioner which he actually was, during the greater part of the period of his most original researches. In his native land of Sweden, as might be expected from a soil and people of strangely romantic history, inspiring scenery, and somewhat uncanny meteorology, the folk-lore medicine of the people, the miracle methods of the clerics, the faith-cure of the quack pretender, and the witchcraft treatment of the wrinkled sorceress, for many centuries included the bulk of the practice of the healing art as carried out in that country. Herbal cures, ranging in value from that of the "All heal"-ing mistletoe downwards, were largely employed by the people of all the Scandinavian territories. One of the medicinal products of the vegetable kingdom which have been largely used by the Swedish people is the wood strawberry, and the belief in the therapeutic efficacy of this fruit has been by no means confined to the peasantry and the unlearned vulgar. Linnæus himself has placed on record the fact that by eating of this fruit he was able to bring a violent attack of gout to a precipitate conclusion, and for the remainder of his life he consumed a maximum quantity of fresh strawberries. There was thus a very good precedent behind the attempted boom of the "strawberry cure of gout" which was made in the latter years of the past century, although the "discoverers" of the "cure" did not, so far as I can remember, quote that authority! And it is of interest to add in this association a passing reference to a still more remarkable specimen of folk-lore prescience of recent—"modern"—discovery in the domain of scientific therapeusis: the Swedish appreciation of the *wintergreen*, which has been time out of mind recognised by the peasantry of that country as a "miraculous" cure for rheumatism, and is on that account popularly known by the highly expressive epithet of *Stat up ach gatt* (Stand up and walk).

I am, Sir, yours faithfully,
Dublin, June 23rd, 1903. JOHN KNOTT.

CHILDREN'S COUNTRY HOLIDAYS FUND.

To the Editor of THE LANCET.

SIR,—The delightful weather of the early summer brings to the minds of your readers happy memories of pleasant holidays spent abroad or at the seaside or in the country and is turning their minds to the days when they will again leave London. May we remind them of the needs of the poor children of London, most of whom have no such happy memories confined as they are to the streets.

The Children's Country Holidays Fund, which is now entering on its twenty-fifth year of work, exists to send the poor children of London into the country for a fortnight's holiday with cottage hosts. All children between the ages of five and 14 attending the elementary schools are eligible without distinction of creed; and in all cases where they can, the parents contribute towards the cost. Last year 41,970 enjoyed a fortnight in the country. May we ask your readers to help us to send 50,000 this year? Every guinea subscribed will provide a fortnight's holiday for two children. All donations, large or small, will be gratefully acknowledged by the Hon. Treasurer, the Earl of Arran, 18, Buckingham-street, Strand, W.C.

We are, Sir, yours obediently,
ALFRED LYTTELTON } Trustees of the Children's
W. F. D. SMITH } Country Holidays Fund.
Buckingham-street, Strand, W.C., June 23rd, 1903.

DIRECT EXCRETORY IRRITATION

To the Editor of THE LANCET.

SIR,—On p. 1776 of your issue of June 20th you have a review of Dr. Norman Walker's new edition of "Introduction to Dermatology." The writer therein remarks: "We agree with the author that most of the substances causing urticaria certainly act as toxins on the skin, probably as they are being excreted, and that they do not cause the disease merely by reflex irritation, as is still often taught," and so on. This passage confirms my theory of the origin of many symptomatic skin rashes by direct excretory irritation. It was first published at the Birmingham meeting of the British Medical Association some 18 years ago. Later, it was somewhat more elaborated in a little volume "Excretory Irritation," published in 1897. The theory has passed through the early stages of derision and neglect and is now virtually adopted by implication in the writings of various dermatologists. Dr. Norman Walker, however, is the only dermatologist who has so far formally and publicly acknowledged my position in the matter—and he has done so in several past editions of his book. To the latter fact I venture to call the attention of your reviewer. Personally I have always been content to accept the position that if my theory attains the established dignity of a general law the question of authorship does not much matter. At the same time I am sure THE LANCET would wish its readers to be accurately informed upon a point of the kind.

I am, Sir, yours faithfully,
Bryanston-street, W., June 29th, 1903. DAVID WALSH.

NOTES UPON HEALTH RESORTS.

SCANDINAVIAN WINTER HEALTH STATIONS.

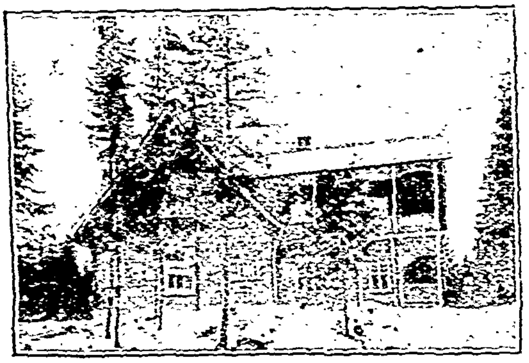
(BY A SPECIAL COMMISSIONER.)

VII.[1]

GOTHENBURG AND DISTRICT.

AFTER Stockholm, Gothenburg is the best centre from which English visitors should explore Sweden. It is easily reached. There are good hotels. Many objects of interest are worthy of a visit, particularly the beautiful Castle Park or Slottskogsparken, the Museum and excellent collection of paintings and sculpture, the Trädgardsföreningen, or gardens of the Horticultural Society, and its extensive general hospital. There is a large and influential colony of English residents in Gothenburg. As a starting point for many interesting excursions by rail or steamer this city presents many advantages. It is also a centre which has been conspicuous in the development of educational and industrial enterprises and has adopted a progressive attitude towards movements aiming at physical and social betterment. The student of medico-sociological problems will find much food for thought in Gothenburg, Sweden's Manchester and Liverpool combined. But it is not with these matters that these articles are concerned. It is desirable that English health and holiday seekers should understand that Gothenburg is the gateway to a district of Sweden which is particularly well suited for health stations, but hitherto almost unknown outside Scandinavia and until recently undeveloped by Swedes themselves. The Göteborg-Boras-Alfvesta railway has opened up Westergotland, a province of Sweden wonderfully rich in natural charms and offering exceptional advantages for the establishment of sanatoriums and health resorts.

FIG. 1.



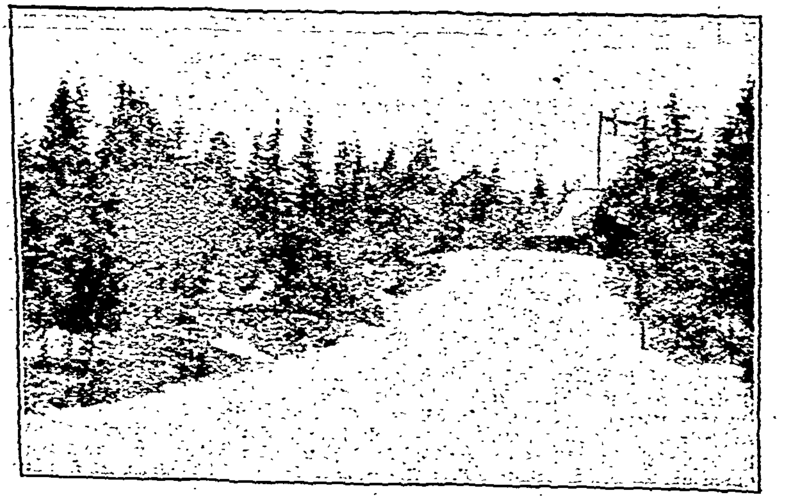
The Sports Club-house at Hindas.

Through the courtesy of Captain Sprinchorn, the general manager of the line, and under the personal guidance of Mr. Charles Östrand, to whose considerate kindness and wide knowledge I am much indebted, was enabled to explore some of the most attractive parts of this picturesque, admirably engineered, and enterprisingly managed railway. I was particularly struck with the advantages offered by two comparatively new and undeveloped centres on this line, and as at both there is accommodation well suited to the requirements of English visitors I propose to describe the chief features of these hitherto almost unknown resorts. It should be understood that for the unconventional explorer of Nature's retreats and for the holiday-maker who would discover new paths and seek out fresh centres far removed from the haunts of the vulgar tripper and the route of the ordinary tourist the Göteborg-Boras-Alfvesta Järnvägar offers unrivalled opportunities. The line was opened for traffic in 1902 and now provides a way into the heart of Southern Sweden, with its highlands of Smaland, intersected by numerous lakes, and forms a route to Carlskrona, Kalmar, and the south-east of Sweden. The line in several sections of its course rises to a considerable altitude and the surrounding country is peculiarly attractive.[2]

HINDAS.

Twenty-two miles from Gothenburg, and distant only three-quarters of an hour's railway journey, the new health station of Hindas is situated. Although at present quite in its infancy this centre promises to be one of considerable importance in the near future. The very railway station is unusual and at once appeals to the artistic visitor. It is built in the old Swedish style with loggia, and its large hall gaily painted and provided with an open fireplace and quaint chandeliers and brackets for electric lamps give it a peculiarly attractive appearance. Hindas lies in the midst of forests and lakes. The latter are well stocked with fish and afford ample sport for the angler. The place seems to have been first discovered a few years ago by some of Gothenburg's enthusiastic ski-touring sportsmen. Its many advantages as a winter sports centre led to the establishment of a club house by the Gothenburg Sports Union. This is one of the most charming of club quarters (*Fig.* 1). It is a wooden structure of two storeys. Throughout a naturalness and simple artistic fitness have been maintained, while at the same time requirements for comfort and convenience have not been lost sight of. In one corner of the roomy hall is placed an old-fashioned open brick fire-place where pine logs are burned, scenting the interior with their fragrance. The large club-room is typically Swedish with polished floor and wooden furniture coloured green and red.[3] A library is well supplied with sporting literature. On the ground floor are also kitchen, pantry, and toilet rooms. The bedrooms are situated on the first floor and provision is made

FIG. 2.



The ski-jump at Hindas.

---

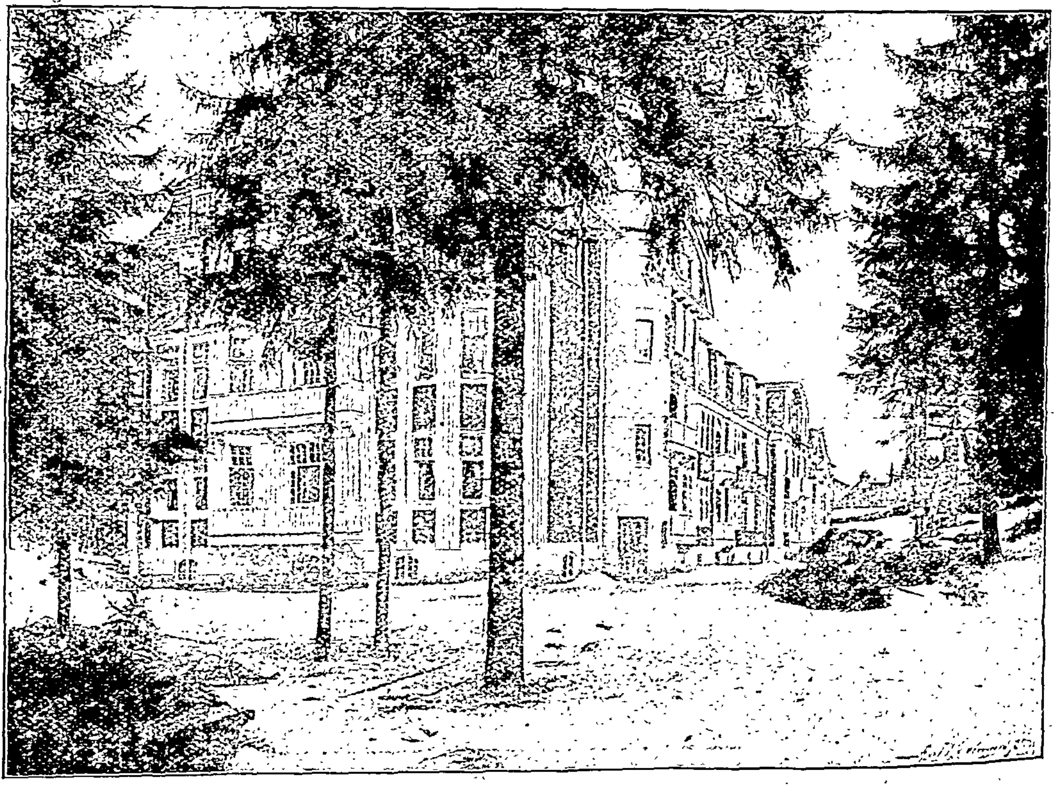
[1] Nos. I., II., III., IV., V., and VI. were published in THE LANCET of April 25th (p. 1233), May 2nd (p. 1306), 16th (p. 1435), and 30th (p. 1576), and June 13th (p. 1717), and 27th (p. 1875), 1908, respectively.

[2] An illustrated handbook to the line has been published: "En Färd Med Göteborg-Boras och Boras-Alfvesta Jährnvägar." Göteborg: Wettergren and Kerber. Price 75 öre. I understand that an English edition is in preparation.

[3] Good illustrations appear in the Club Year-books: "Göteborgs Idrotts Förbunds Arsskrift" Göteborg: Bröderna Töpels Boktryckeri.

for 16 women and 24 men. It must be remembered that in Scandinavia the co-education begun in school days is advantageously continued through youth into adult life, and its benefits are conspicuous in the associations which are natural and necessary for the proper conduct of winter sports. From the balconies delightful views are obtained of Lake Nedsjon, which lies just beneath the club-house. The whole building is warmed by a central heating apparatus and lighted by gasolene. Members of the Union can reside here for a merely nominal fee and have the use of boats, canoes, ice-yachts, skating-sails, skis, and skates on very small payment. The annual subscription is only 16*s.* and I was given to understand that foreign visitors might be admitted to the privileges of membership for short periods. Adjacent is an elaborate and well-constructed ski-jump (Fig. 2). Having climbed to the top I can testify to the glorious outlook there obtained of lakeland and forest and far distant rolling hills. Near by is an excellent toboggan-slide. The lake offers attractions for the skater. Here I experienced the exhilaration and fascination of ice-yachting, and if for no other reason than enjoying this delightful form of winter sport a visit to Hindas is strongly to be recommended.

FIG. 3.



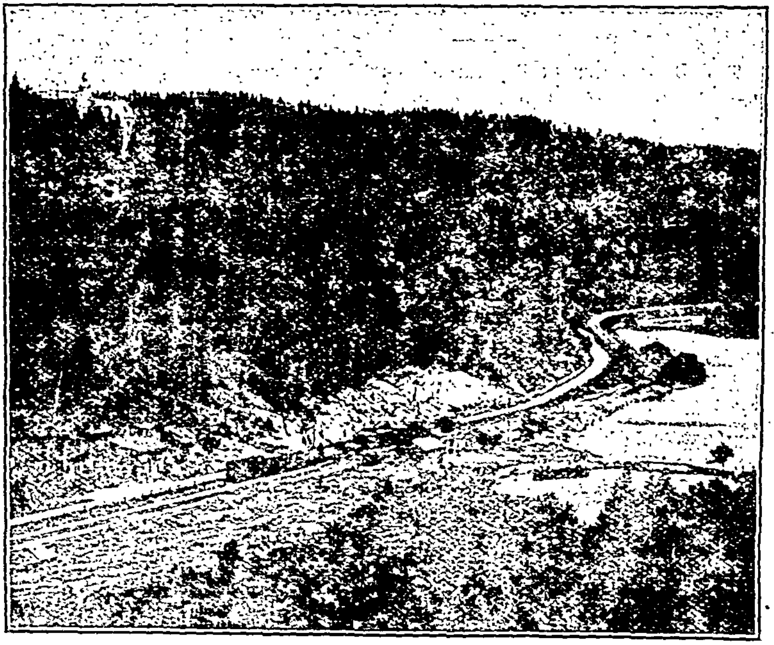
The new Tourist Hotel at Hindas.

The Hindas Tourist Hotel is one of the most artistic, comfortable, and ably conducted establishments of its kind in Sweden (Fig. 3). Having spent a night here and thoroughly inspected all parts of the building and grounds I am in a position to form an opinion. In architectural features the building is characteristic of the best modern Swedish style. It is constructed of wood. Its exterior in red and white makes an effective impression and forms a pleasing contrast to the setting of dark pines which closely surround it. The central hall forms a specially attractive lounge and meeting-place. It is wainscoted in dark green and provided with light green panels, the high ceiling being supported on heavy wooden beams of the same colour. A double staircase leads to a balcony running the whole length of the hall supported by pillars of green-stained wood picked out here and there with bright red. The colouring adopted in Sweden, and indeed throughout Scandinavia, seems to exercise a peculiar psychological influence which is at once soothing and stimulating. A large open fireplace, provided for the burning of pine logs, adds an old-fashioned and homely appearance which English sportsmen will know how to appreciate. The dining-room and other apartments are excellent. There are 63 bedrooms. Each has its own little lobby and most are provided with a balcony. The sanitary arrangements leave nothing to be desired. A water-closet system is provided throughout. There are also first-class baths. The most surprising thing about the place is the comparatively low charges, as they seem to an Englishman, for inclusive board and lodging can be had from 6*s.* a day. No doubt at every season of the year Hindas can offer attractions to the visitor seeking rest and health, but its chief charms to those who have seen it in winter would seem to be most evident, at least to the sportsman, when the lake is ice-gripped and the snow-covered forests and hills call for the devotees of the ski. If apology is needed for dwelling enthusiastically and at length on the delights of Hindas I can only offer the excuse that I would share my experiences with other Britishers.

HULTAFORS.

A few miles beyond Hindas the country assumes a somewhat wilder aspect. At Hultafors on the mountain slopes overlooking the Viared lake a new hydropathic establishment and climatic cure station has recently been opened. Dr. Klas Björkman, the visiting physician, very kindly showed me over the whole building. Hultafors is at present little more than a station and a sanatorium, as will be seen from the accompanying illustration (Fig. 4). A new station is being built and as Gothenburg is only 36 miles distant and the service of trains very good the place should develop rapidly. The hydropathic establishment is admirably placed on the hillside, surrounded by forests of pine, birch, mountain ash, oak, alder, and hazel, and allowing of extensive views over the lake below and distant mountains and forest lands. The altitude is said to be about 850 feet above sea level. The building is thoroughly up-to-date both in its planning and its equipment. It is angled and faces south and thus forms a veritable sun-trap and thorough shelter from the most trying winds (Fig. 5). In the lowest storey are placed the baths which are very complete and allow of the administration of almost every kind of hydrotherapeutic measure and the chief forms of electrical treatment. The lounge-hall, dining, and other public rooms have been well designed. The bedrooms, of which there are 60, and the private apartments are excellent, nearly all looking out southwards over lake and forest, and in many instances being provided with balconies. Heating is maintained by a central hot-water system. Electric light is provided throughout. The sanitary arrangements are good, a complete water-closet system having been installed.

FIG. 4.

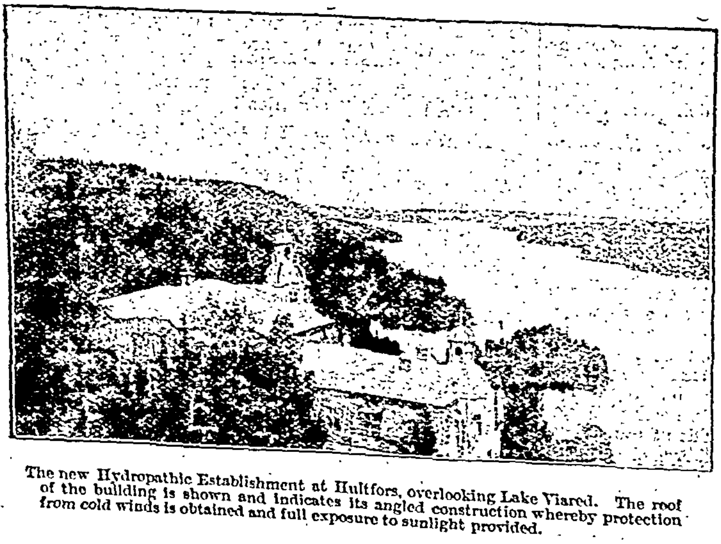


Hultafors, showing the line of the Göteborg-Boras-Alfvesta Railway, with the edge of Lake Viared on the right and the new Hydropathic Establishment amidst the trees on the hillside to the left.

Hultafors is an ideal resort for the weary worker seeking rest for mind and body. Here the convalescent may recuperate, the overwrought obtain relief from the stress and strain of bustling life, and the neurotic, the delicate, and the invalid obtain hygienic oversight, nursing and medical supervision, under the best possible climatic conditions and with ease and comfort almost amounting to luxury. At the time of my visit a well-trained nurse, experienced in Swedish massage and medical gymnastics, was in residence. Tuberculous cases are not admitted. Special attention is devoted to patients requiring regulation of diet.

Although primarily intended for cases requiring more or less medical direction and care, visitors desiring renewal of health and mental vigour by a participation in the milder forms of winter sport will be welcomed. The inclusive tariff ranges from kr. 5.50 (5*s*. 6*d*.) a day, with a charge of 1 kr. a day for a complete hydropathic course. Medicated, electric light, and massage baths are charged at from 25 to 75 öre a bath. These terms appear to be remarkably reasonable. There are many English patients and health and holiday seekers for whom the simple hygienic life is essential who are debarred by the prohibitive prices of *many of our* fashionable homeland establishments. For such, as well as for those who would practise something of Swedish winter sports for themselves, Hindas and Hultafors are thoroughly to be recommended.

FIG. 5.



The new Hydropathic Establishment at Hultfors, overlooking Lake Viared. The roof of the building is shown and indicates its angled construction whereby protection from cold winds is obtained and full exposure to sunlight provided.

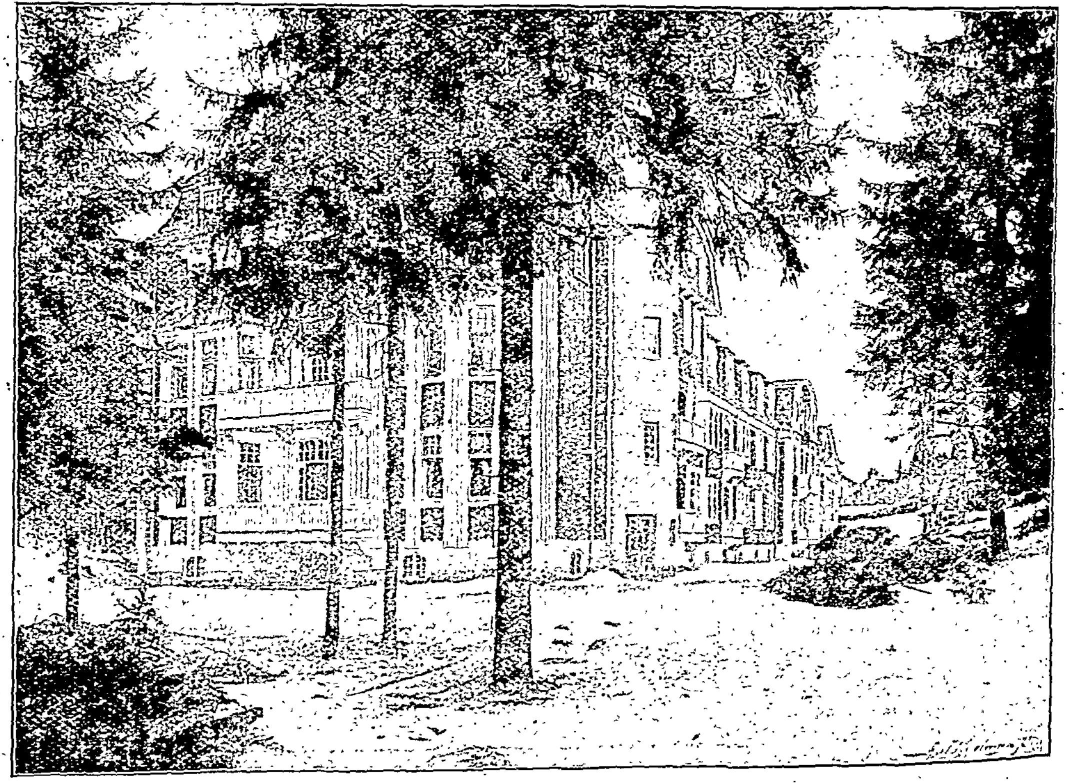
THE ROYAL INFIRMARY, LIVERPOOL, AND THE LATE MR. A. F. WARR.—A meeting of the citizens of Liverpool was held at the Town Hall on June 16th, under the presidency of the Lord Mayor (Dr. Richard Caton), to promote a memorial to the late Mr. Augustus Frederick Warr, formerly M.P. for one of the Liverpool divisions and a prominent member of the committee of the Royal Infirmary, in recognition of his personal worth and eminent public services. Mr. Ralph Brocklebank (the chairman and treasurer of the Royal Infirmary), in supporting the motion, said that Mr. Warr was closely associated with him in the management of the Royal Infirmary. It was to Mr. Warr that they owed the charter of the infirmary and he helped the committee in every possible way. There were two institutions in which Mr. Warr was always deeply interested—the University and the Royal Infirmary—and without appearing to be antagonistic to the propositions of the previous speakers he would very much like to see Mr. Warr's name, if the funds would render it possible, associated in some way with the hospital for which he had done so much. Nothing, he thought, could be better than the endowment of a bed at the infirmary, with a tablet suitably inscribed, but he merely offered this as a suggestion.

ELEVENTH FRENCH MEDICAL CONGRESS AT GENEVA.—This congress, as already announced, will take place at Geneva from Sept. 3rd to 5th. Medical men intending to take part in the congress can obtain from the office of the Paris, Lyons, and Mediterranean Railway at 188, Rue St. Lazare, Paris, railway tickets from Paris to Geneva at a discount of 50 per cent.

for 16 women and 24 men. It must be remembered that in Scandinavia the co-education begun in school days is advantageously continued through youth into adult life, and its benefits are conspicuous in the associations which are natural and necessary for the proper conduct of winter sports. From the balconies delightful views are obtained of Lake Nedsjon, which lies just beneath the club-house. The whole building is warmed by a central heating apparatus and lighted by gasolene. Members of the Union can reside here for a merely nominal fee and have the use of boats, canoes, ice-yachts, skating-sails, skis, and skates on very small payment. The annual subscription is only 16*s.* and I was given to understand that foreign visitors might be admitted to the privileges of membership for short periods. Adjacent is an elaborate and well-constructed ski-jump (Fig. 2). Having climbed to the top I can testify to the glorious outlook there obtained of lakeland and forest and far distant rolling hills. Near by is an excellent toboggan-slide. The lake offers attractions for the skater. Here I experienced the exhilaration and fascination of ice-yachting, and if for no other reason than enjoying this delightful form of winter sport a visit to Hindas is strongly to be recommended.

The Hindas Tourist Hotel is one of the most artistic, comfortable, and ably conducted establishments of its kind in Sweden (Fig. 3). Having spent a night here and thoroughly inspected all parts of the building and grounds I am in a position to form an opinion. In architectural features the building is characteristic of the best modern Swedish style. It is constructed of wood. Its exterior in red and white makes an effective impression and forms a pleasing contrast to the setting of dark pines which closely surround it. The central hall forms a specially attractive lounge and meeting-place. It is wainscoted in dark green and provided with light green panels, the high ceiling being supported on heavy wooden beams of the same colour. A double staircase leads to a balcony running the whole length of the hall supported by pillars of green-stained wood picked out here and there with bright red. The colouring adopted in Sweden, and indeed throughout Scandinavia, seems to exercise a peculiar psychological influence which is at o soothing and stimulating. A large open fireplace, provid for the burning of pine logs, adds an old-fashioned a homely appearance which English sportsmen will know h to appreciate. The dining-room and other apartments excellent. There are 63 bedrooms. Each has its own lit lobby and most are provided with a balcony. T sanitary arrangements leave nothing to be desired. water-closet system is provided throughout. There also first-class baths. The most surprising thing about t place is the comparatively low charges, as they seem to Englishman, for inclusive board and lodging can be h from 6*s.* a day. No doubt at every season of the y Hindas can offer attractions to the visitor seeking rest a health, but its chief charms to those who have seen it winter would seem to be most evident, at least to the spor man, when the lake is ice-gripped and the snow-cove forests and hills call for the devotees of the ski. apology is needed for dwelling enthusiastically and length on the delights of Hindas I can only offer t excuse that I would share my experiences with other Britishers.

FIG. 3.



The new Tourist Hotel at Hindas.

HULTAFORS.

A few miles beyond Hindas the country assumes a somewhat wilder aspect. At Hultafors on the mountain slopes overlooking the Viared lake a new hydropathic establishment and climatic cure station has recently been opened. Dr. Klas Björkman, the visiting physician, very kindly showed me over the whole building. Hultafors is at present little more than a station and a sanatorium, as will be seen from the accompanying illustration (Fig. 4). A new station is being built and as Gothenburg is only 36 miles distant and the service of trains very good the place should develop rapidly. The hydropathic establishment is admirably placed on the hillside, surrounded by forests of pine, birch, mountain ash, oak, alder, and hazel, and allowing of extensive views over the lake below and distant mountains and forest lands. The altitude is said to be about 850 feet above sea level. The building is thoroughly up-to-date both in its planning and its equipment. It is days old. He illustrated his observations by a model and with the aid of lantern slides and sections. New light was thrown upon the development of the choroid plexuses in the lateral recesses of the fourth ventricle and upon the growth of the pituitary body by a model of a young developing brain, which was demonstrated by Professor P. Thompson, and the earlier stages of the growth of the lower jaw were beautifully illustrated by a series of excellent reconstruction models prepared and exhibited by Professor E. Fawcett. Professor A. M. Paterson showed a series of preparations in support of his contention that the so-called ampulla of the rectum is not a reservoir in which fæces are retained for a certain period before expulsion but a practically closed canal. He admitted that in cases of chronic constipation the ampulla might be filled and distended with fæcal matter, but he urged that such a condition was not normal. In the discussion which followed his demonstration many differences of opinion were developed and the subject is evidently one which requires further investigation. Mr. C. A. Leedham-Green summarised the opinions and evidence regarding the sphincter of the bladder and proved conclusively that the sphincter apparatus at the upper end of the prostatic urethra is an important and effectual mechanism. Professor G. Elliot Smith gave a most lucid explanation of the methods of mapping out the areas of the brain cortex and presented a new chart of the areas modified from those which have previously been published in accordance with the results of his more recent work. He also drew attention to the frequent presence of the infantile type of urinary bladder in adult negroes and Egyptians and pointed out the necessity of remembering its occurrence in the performance of operations in the lower part of the abdomen. Professor D. E. Derry of Cairo explained the methods to be adopted in recognising the sex of innominate bones. He laid great stress upon the presence of a preauricular sulcus as indicative of the female bone. Professor Alexander Macalister confirmed Professor Derry's observations. Mr. Wood Jones exhibited a number of peculiar bones and fragments of bone discovered in excavations in Nubia in the hope of extracting information regarding their peculiarities from the members of the society; he received, however, little help, for the peculiarities were of a particularly uncommon nature. In the afternoon the members of the society were entertained at a most delightful garden party given by the Dean of the Medical Faculty of the University and Mrs. Barling. The proceedings terminated with the usual annual dinner to which Mr. C. B. Lockwood, the first secretary of the society, had been invited as the chief guest to celebrate the society's attainment of its majority, the present year being the twenty-first of its existence.

Hospital Saturday.

June 20th was Hospital Saturday in Birmingham and if the amount paid into the bank on that and the closely following days may be taken as a criterion it appears probable that a new record may be made. Last year the £20,000 which the late Sir William Cook had worked and hoped for was attained and he had the pleasure caused by the realisation of his wishes, but it seems for the moment, at all events, that last year's collection will be exceeded this year. On June 20th the amount paid into the account of the fund was £14,733, or £127 more than last year, and by June 25th the total sum had increased to £17,745, a sum which exceeded that paid in the same period last year by £393. It is also worthy of note that the number of contributors was somewhat smaller than last year. If the indications are correct and the final total is still larger than it was last year, it is to be hoped that the controllers of the fund will see their way to increase the amount which they devote to the hospitals, for the amount of work which the hospitals do for the community, from whom the Hospital Saturday Funds are derived, has increased very greatly and it may be suggested without any unfairness that the sum subscribed to the hospitals from the fund has not increased in relative proportions.

The Feeble-minded.

The statement made by Mrs. Pinsent at a recent meeting of the Birmingham Education Committee will make all thoughtful and far-seeing people still more anxious than they have been that wise and firm laws shall be made as soon as possible to deal with the feeble-minded and to enable them to be placed under proper care and control. Mrs. Pinsent is not usually pessimistic, but she seemed to be depressed by the fact that the result of work of the special schools in this district was that only 19 per cent. of the individuals who had passed through them became wage-earners and only 3 per cent. were earning 10*s.* a week. The conclusion which she drew from the evidence at her disposal was that the majority of defectives require care and protection during their whole lives. If she had gone further and said all, rather than the majority, and had she suggested that restraint in addition to care and protection was required, she would probably have put forth more completely the opinions of most of those who have devoted any careful thought to the problem.

June 30th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Deaths under Anæsthetics.

AN inquest was held recently at the Manchester coroner's court on a tinsmith, aged 42 years, who had lived in Hulme. He underwent an operation on the Wednesday, having been admitted to the Withington Poor-law hospital on the previous Saturday. Chloroform was given and the man very soon collapsed. Artificial respiration was tried but without success. The medical evidence was that death followed the action of chloroform on a weak heart. The deputy coroner (Mr. Sellers) said: "The man was suffering from such a form of heart disease as would make him liable to die under an anæsthetic." One need not perhaps infer that this was intended as a rebuke to the medical men engaged in the case, but it may at all events bear the interpretation that this was a case where if an anæsthetic were administered at all it should be done with extreme caution. There was no evidence given to show that all possible precautions were not carried out and the jury returned a verdict of death from chloroform "which had been skilfully administered." The public mind, however, is a little anxious about deaths under anæsthetics and the jury added "that they thought it desirable a visiting surgeon should be present, if possible, when an anæsthetic was administered." The deputy coroner said he agreed with that expression of opinion. Nor is the medical profession in general likely to dissent from it, for, putting away any feelings of humanity which, though often forgotten, are common to us, as to the rest of mankind, the safety of the patient is instinctively, and not as a mere matter of self-interest, the first aim of the profession. Still, if the attitude of a certain London coroner is to become general, the medical profession will, from the mere feeling of self-preservation, find it necessary to be even more cautious than ever as to the cases to be operated on, either with or without anæsthetics.

Poisoning and Stupidity.

About a fortnight ago a widow, aged 57 years, poisoned herself with carbolic acid. She was sober when she bought the acid, which was wanted, she said, for disinfecting purposes, but drunk when she went to the house of her daughter-in-law, to whom she said she "was going to do it," adding, "Put some flowers on my grave." She had the poison in her pocket, went home, drank a quantity of it, and died in due course. She had often fretted over the death of a daughter a few years ago and said that she did not care how soon she was with her. The stupidity or callousness of the relatives excited the surprise of the deputy coroner who said it was extraordinary that though she told a daughter-in-law "she was going to do it" no one took the bottle from her or watched her after she left the house. The verdict, of course, was the usual one of "Suicide while temporarily insane," but the jury thought that the coroner should censure the relatives for "their stupid behaviour." This Mr. Sellers did, adding that he thought they had been somewhat callous. A relative said, "No, we were not callous; we never thought mother would do it." Giving the relatives—they can scarcely be called the friends—of this woman the benefit of the doubt as to being callous it is difficult to understand the crass

THE FRANCO-BRITISH EXHIBITION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE DIFFICULTY IN REGARD TO THE LAVATORIES.

THOUGH there are still cases that have not been unpacked and others that have not yet even arrived, nevertheless, for all practical purposes, it may now be said that the Franco-British Exhibition is ready and well worth visiting. Exhibitions are never really ready at the day of opening but this particular exhibition may boast of having broken the record in respect to unpreparedness. The worst phase of this delay led to some widely published complaints. There is no doubt that on the opening day there were regrettable scenes round and about the lavatories. For this circumstances which no one could control, such as the bad weather, were to blame as well as the lack of foresight on the part of individuals. Who these individuals were, however, it would be difficult to say, for one and all, with a unanimity worthy of a better cause, blame each other and fail to recognise that they were themselves in any way at fault. There is the exhibition management on one side and various concessionaires on the other, and it would require a wise judge to say which of all these was the most negligent. But, as already observed, there were also special circumstances that greatly aggravated the trouble.

In the long passage-like succession of halls and sections, the Sections 1 to 8 that stretch from Uxbridge-road to the Wood-lane entrance of the main building, there are four lavatories. On the opening day vast crowds came that way but hurried forward and never noticed these lavatories or thought to retrace their steps so as to come back to them later in the afternoon. The public crowded to the Court of Honour. After the opening ceremony there was a great congestion of people between the Court of Honour, the Élite Gardens, and the Stadium. Inside the Stadium there are eight lavatories and two urinals. But the people did not think of going inside to look for them. Now the four lavatories that are on the same side of the Stadium as the Élite Gardens have had openings and doors made so that they can be reached from outside as well as from inside the Stadium. Had this been done before the opening day these lavatories would have rendered a great service. Also but for the rain and the terrible amount of mud the crowds would have scattered and have wandered towards the semicircle which contains the colonial exhibits. Here there are two lavatories by the horticultural section, and eastwards two more by the New Zealand pavilion. Further east at the end of the French Palace of Applied Arts there are also to be found a ladies' lavatory and a gentlemen's lavatory. In the centre where the great crowd congregated there were two lavatories, one on each side of the grand restaurant, which could have been used although the building was not quite finished. Undoubtedly the accommodation was insufficient, but there would have been much less cause of complaint if the public had only known where to go. While the lavatory known as No. 9 was invaded by a crowd of distressed ladies and scenes were witnessed which were certainly unseemly there were other lavatories not so very far away which were almost deserted.

Turning from the past to the present there are actually 28 lavatories in working order in the grounds, that is 14 for ladies and 14 for gentlemen; others are in course of construction. There will be four more available in a few days. Then there are also a number of private lavatories as well, notably those connected with the restaurants. The question now arises whether this will be sufficient. The difficulty is to prevent congestion. The people should go away from the crowd instead of seeking a lavatory close to where they see the largest accumulation of visitors.

Last week, when the exhibition was crowded because it was splendid cloudless weather and an early closing day, a lady undertook to visit the lavatories on behalf of THE LANCET. With but one exception there was plenty of room everywhere and no need to wait. But at the ladies' lavatory near the Senegalese village every closet was occupied and eight or ten persons were standing waiting either inside or outside the small structure. Among them there was a woman with two children who had no small change. The attendant told her there was time to go to buy something so as to get change before it would be her turn. This certainly seemed a double hardship, particularly as there were children to complicate the difficulty. Surely the attendants should be able to change at least small coins. Just opposite this particular lavatory there are the toboggan Liloise and the giant flip-flap, and these, with other minor side shows, draw many people to this part of the grounds. It is true there are other lavatories that are not far away, at the Grand Restaurant and under the Stadium, in a line with the Grand Restaurant. But the overcrowded lavatory is the first to catch the eye of the visitors as they emerge from the semicircle of the colonial exhibits. There being thus both optical and topographical reasons calculated to produce the overcrowding of one or two particular places, if these lavatories cannot be enlarged in size or more built on the same spot, a conspicuous notice might be posted indicating the way to the other nearest lavatories. Indeed, if these had been all marked down on the Exhibition map a great deal of suffering might have been avoided and many unpleasant incidents would never have occurred. England has, with just pride, considered itself the first nation in the world to construct and to introduce sanitary closets and to establish in this respect the highest standard of decency and cleanliness. Yet at this exhibition, where as a nation we should have put our best foot forward, especially in regard to sanitation, we seem on this occasion to have failed utterly to maintain our reputation. Far be it from me to attempt to pronounce an opinion or to blame individuals. But for a great exhibition to prove truly successful, above all commercial and private interests there must be a supreme influence which represents the nation as a whole. Otherwise it will degenerate into a money-making show. The energy and enterprise of individuals instead of being directed to securing a common and national success will be wasted in unseemly and unprofitable strife against each other. We shall have concessionaires showing their teeth at the general management and the general management excusing itself on the ground of the concessionaires' incapacity, while the public will suffer and the national honour is compromised.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE summer term is rapidly drawing to a close and the examinations in the various faculties are either proceeding or are over. The total number of candidates presenting themselves for examination is 569, or 80 more than last year. This increase in number may perhaps be taken as a criterion of the steady advance which the University is making and of the increasing hold which it is gaining upon the inhabitants of the city and the surrounding districts. The greatest increase in numbers has been in the Faculty of Science. This cannot be wondered at, for the advantages enjoyed by its members are so obvious that they are readily grasped at. The advantages offered by the Medical Faculty are, however, quite as great, even in the early parts of the course, and the clinical material is excellent.

The Summer Meeting of the Anatomical Society of Great Britain and Ireland.

The summer meeting of the Anatomical Society was held in the anatomical department of the University on June 26th, and, judging from the expressions of opinion of those present, it proved to be one of the most successful summer meetings not only on account of the numbers present but also because of the importance and interest of the subjects discussed. One of the striking features of the meeting was the exhibition and description of a number of reconstruction models illustrating various developmental phenomena. Professor Arthur Thomson, the President of the society, showed a model of a developing human eye. This model not only made very clear the relationships of the various parts, but it suggested that perforations were present in the outer layer of the retina at an early stage of development through which mesoblastic cells might pass and form the foci of sarcomata which are known to originate in that region. Dr. A. Bryce described the main features of the youngest human embryo known which he estimated to be about 13

Tydvil are now well supplied with water, but other populous districts such as Pontypridd and the Rhondda valleys and some parts of the Aberdare valley are not so well circumstanced and the conditions of these mining localities are such that supplies must be sought outside the coal field where subsidences are not likely to occur. There is little doubt therefore that the county council will have to persist in its efforts to obtain a general supply.

Municipal Lodging-house for Swansea.

Although there has been for some years in Swansea at least one excellently managed large private common lodging-house the report of a committee of the corporation makes it clear that there is also room for a house managed by the corporation. At a recent visit of the committee to one house all the beds were found occupied and in addition 25 persons were found in the kitchen, and in another house no fewer than 45 persons were crowded together in the kitchen.

Newport Corporation Sanatorium.

The experiment made by the Newport corporation in treating six consumptive patients in a wooden pavilion in the grounds of the Isolation Hospital has been sufficiently successful to warrant the sanitary committee in recommending that six more beds shall be utilised at an additional cost of £300 per annum.

Death of Mr. Henry Cecil Moore.

The medical profession in Hereford has sustained a severe loss through the death on June 21st of Mr. H. Cecil Moore, the medical officer of health of the city, at the age of 72 years. Mr. Moore was the son of Brigadier-General Moore and was born in Lucknow. While still in his teens he joined the Royal Engineers and was attached to the forces engaged in the suppression of the Indian Mutiny. Subsequently he was connected with the Public Works Department and for two years was commanding Engineer and Governor of Perim Island. After service in Ireland ill-health necessitated his retirement from the army on half-pay in 1866. A few years later he decided to study medicine at the Queen's Hospital, Birmingham, and in 1872, having graduated as M.R.C.S. Eng., L.S.A., he was elected house surgeon to the Hereford Infirmary, a post which he held for seven years, when he started in private practice in the town. For a short time he was deputy medical officer of health of the Herefordshire combined sanitary district and for the past eight years had been medical officer of health of the city of Hereford. He took up the study of public health questions with remarkable keenness and was a careful student of current public health literature, with the result that he has left behind a most valuable series of annual reports. There is no doubt that if Mr. Moore had entered the public health service at the beginning of his medical career he would have risen to a very high position in the service, for his training as an engineer, his eminence as a geologist, and the skill with which he collated facts relating to his inquiries would have proved of the greatest assistance to him. For more than 20 years he was secretary of the Woolhope Field Naturalists' Club and during nearly the whole of that period edited the transactions of the club. Quite recently he was elected the President for the second time. The success of this club is in a great measure due to the energetic service which he gave to it. Mr. Moore is survived by his widow.

June 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal Victoria Hospital for Consumption, Edinburgh.

THE eighteenth annual report of this charity contains many interesting details of the work of the Victoria Dispensary, which has become an acknowledged model for the conduct of anti-tuberculosis operations. That part of the work which is done at the patients' own homes is of great value to the community, for not only is each one visited and given full instructions by a medical officer after study of his particular hygienic environment, but, whenever possible, other members of his family are submitted to examination. In this way a number of unsuspected cases have been discovered. Thus a single case brought 15 patients under the direction of the dispensary at an obviously more hopeful state of their disease than otherwise would have been the case. So wide are the operations of the dispensary that it notified 50 per cent. of all the cases in Edinburgh revealed by the first year's adoption of compulsory notification in that city. Its records show that in certain tenements every floor and almost every dwelling have their case of tuberculosis, and that patients who change their lodgings often assist in spreading the disease. The results have been most satisfactory with regard to patients treated early, and the recent addition of two new pavilions, which with a new dining-hall and administration block were opened by Mr. A. J. Balfour in October last, has considerably reduced the time which they must spend on the waiting list. The hospital has adopted a definitely graded system of work for suitable patients and is now desirous of founding a working colony which will raise supplies for the hospital by the labour of convalescent patients, as it is felt that such a provision for hardening them off before they return to their usual avocations will add considerably to the value of their treatment. A sum of £5000 would suffice to start the scheme.

Prevention of Cruelty to Children.

The annual meeting of the Glasgow branch of the Scottish National Society for the Prevention of Cruelty to Children was held last week. The annual report stated that the total number of cases reported and investigated had been 1870, an increase of 265 over the previous year. These cases involved 2187 parents or guardians, of whom 1998 were dealt with by warning and advice, and when other means failed by prosecution. Of the latter 153 were imprisoned or fined, and 36 were convicted and admonished by the court. The number of children involved was 5583, an increase of 904 over the previous year. The ordinary income amounted to £1386 and the legacies to £1009. The expenses for the year amounted to £1495.

Objection to the Word "Asylum."

At a meeting of the Glasgow District Lunacy Board last week a motion was brought forward that, except as required by statute, the asylums in the district should be called the "Glasgow District Mental Hospitals." It was pointed out that there was no objection to the word asylum *per se*, but it had come to mean in the minds of the public a place of detention, whereas the institutions were really places of healing. The motion was defeated.

Sanitary Inspectors' Association of Scotland.

The annual congress of the Sanitary Inspectors' Association has just been held at Dunfermline, about 50 members taking part. A civic welcome was extended to the visitors by the provost and thereafter various subjects were discussed, including Methods of House Construction, the Sanitary Aspects of the Housing Problem, and the Method of Dealing with Refuse by Fire.

Aberdeen Accident Inquiry Court: Attack on the Royal Infirmary.

At the Accident Inquiry Court held at Aberdeen on June 18th an inquiry was held in regard to the death of Hugh McLauchlan, aged 16 years, a labourer, residing at 414, George-street, Aberdeen. McLauchlan was employed at a local granite works and on May 11th he missed his footing and stepped into a tank of boiling water and was scalded severely. He was taken to the Royal Infirmary, where he developed measles. He was then removed to the City Hospital for Infectious Diseases and died there on May 16th, the day of admission. Dr. A. G. Anderson, the resident medical officer at the City Hospital, questioned as to the condition of the boy on admission, stated that he was in a state of slight collapse but that there was no reason to think when he was admitted that the boy would die so soon. Mr. Aitken, who appeared for the relatives, addressed the jury and said that it seemed to him that there was room for the jury having something to say as to the removal of the boy. He thought it was for the jury to give their opinion as to whether it was a proper thing to remove this boy who was undoubtedly in a very low state—in a state of collapse—from the centre of the town to the City Hospital. He thought it was a most improper thing to do. The Fiscal said that the infirmary people did not get any notice of the attack that had been made upon them and held that such notice should have been given. The jury in their verdict said that they were of opinion that the medical officers of the infirmary should have been represented at the inquiry to give a reason why the boy was removed in such a precarious condition.

stupidity which allowed this woman to go away and to poison herself without let or hindrance. It is difficult to understand such a condition of mind. Is it the fault of our system of education, compulsory for a period which would include the lives of most of the poor creature's younger relatives, or is it that the "feeble-minded" form a larger proportion of our population than we realise?

"*County Medicos.*"

The above somewhat disrespectful title heralds the notice of the annual dinner of the Lancashire and Cheshire branch of the British Medical Association in one of the Manchester papers. It was held on June 17th at the Queen's Hotel under the presidency of Dr. C. J. Renshaw, and was well attended. Sir William J. Sinclair proposed the toast of the evening, "The British Medical Association," in a speech which contained much wise counsel. He suggested that after such events as the elections to the council the decision of the majority should be accepted so far that the minority should decide to give the successful side a fair chance. He saw no reason why they should quarrel, "except in a genial sort of way." He thought that more attention should be paid to legislation involving the interests of the profession and instanced the Notification of Births Act as being perhaps an outcome of their negligence and added, "the sooner it was repealed the better would it be for the profession at large." Similarly, with the Midwives Act, the sooner it was amended the better. The toast of "The Guests" was proposed by Sir James Barr and responded to by Bishop Welldon, Dean of Manchester, who spoke of the close association of the Church with the medical profession, and thought that "as the inter-relation of the various parts of man's nature came to be better understood the medical and clerical professions would find themselves in closer union than ever. There were mysteries which remained for the present unsolved and the solution of those belonged partly to theirs and partly to his own profession." The health of "The President" was received with musical honours.

June 30th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The Relations of the College of Medicine at Newcastle-on-Tyne to the University of Durham.

LAST week I alluded to the relations existing between the College of Medicine of Newcastle and the University of Durham, but a few more words as to the College will be in place. The College is an incorporated society registered under the Companies Acts. It is governed by the "Members" and the Council, the Council being elected by the "Members." There are 11 "Members" of the College, all of whom are engaged in the practice of medicine and all, with one exception, occupy a position on the teaching staff of the College. The "Members" are the ultimate authority under the articles of association and receive their remuneration for their services as teachers in the College out of the surplus of receipts over expenditure for the year. This surplus varies from year to year and consequently the remuneration of the "Members" also varies. It is this payment of "Members" out of the annual surplus which is the objectionable feature in the present constitution. The "Members," it is argued, and reasonably so, should receive a fixed remuneration for their services in the same way as the remainder of the teaching staff. For otherwise, the financial arrangements are bound to savour of the annual dividend order which the publication of a balance sheet does not dispel. And it is further obvious that so long as certain members of the teaching staff depend for their remuneration upon a surplus being realised and so long as the amount of remuneration depends upon the amount of the surplus so long will support from private individuals, public bodies, and Government be withheld. Division of profits can have no place in an educational institution which looks for external support. The best friends of the College have repeatedly and for a long time expressed the opinion that the "Membership" should be abolished and its place taken by some other form of government in which the division of the surplus among certain members of the teaching staff should be done away with. In the early days the existing arrangement was a perfectly sound one and, in fact, the only one possible, but those days have passed and new circumstances have arisen which require new methods. Whatever form of government the "Members" may think best, whether it be that they should aim at obtaining a Royal Charter or be content with something less, it is certainly urgent that some change in the direction indicated should be made, and that without delay. Once the "Membership" of the College is abolished and public control substituted the confidence of the public will be gained, with the result that public support will be forthcoming. And public support is badly needed at the present time for many purposes, but here one only need be mentioned—namely, funds to enable whole-time men to be appointed to the charge of the departments of physiology and pathology. The consideration of the provision of further facilities for teaching in these departments by the appointment of whole-time heads of the two departments is a matter requiring immediate attention from the College authorities. Physiology and pathology are subjects of such importance in the training of the present-day student of medicine that it is essential for them to be taught by men specially trained in these branches of learning, who will devote their whole time to their subject. At the moment the funds at the disposal of the authorities do not permit of this being done, but if the changes outlined above be made there can be no doubt that the money would be readily forthcoming, both for those and for other departments of the College.

The Infirmary and the College of Medicine.

Indications are not wanting of a tendency to separate the College from the infirmary in certain departments. It is essential for the best welfare of both institutions that the relation between them should be as close as possible. The connexion should, in fact, be so close that in certain departments the University teaching staff should be *ex-officio* members of the infirmary staff. When of the 13 professional members of the Council of the College nine are members of the infirmary staff and seven members of the house committee of the infirmary it should not be a difficult matter to come to some arrangement between the College and the infirmary whereby they will work together for the mutual benefit of both. It is inconceivable that certain subjects can be efficiently taught in the College, unless the material necessary for teaching purposes can be readily obtained from the infirmary and this is only possible when the two posts, the one at the College and the other at the infirmary in the same subject, are held by the same man.

A Correction.

In my letter published last week a paragraph reads: "The Council of the College of Medicine *has decided* to grant degrees in dental surgery ......"; whereas it should have read: "...... has decided *to recommend the Senate* to grant," &c. The resolution of the College of Medicine has been sent to the Senate but requires to be approved and passed by that body before the degrees can be instituted.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Cardiff Water-supply.

THE Cardiff corporation has for many years been fully alive to the importance of looking after the sanitary condition of the town. With commendable foresight an excellent supply of water was impounded many years ago in two reservoirs in the Taff Fawr Valley in Breconshire and the yield has been so plentiful that, except in the years 1887 and 1899, the supply has been quite sufficient for the needs of the inhabitants. The steady growth of the town has shown that the time has arrived for the construction of a third reservoir and a proposal is now being made to complete the works authorised as long ago as 1884. It is anticipated that the cost of this undertaking will be about £240,000 and will take some eight years to carry out. Apart from the anticipated needs of the town in the future the activity which has recently been shown by the Glamorgan county council in the direction of securing a general water-supply for the county has influenced the corporation in securing a further supply for the city while it is still available. Swansea and Merthyr

Memorial to Dr. Sidney Brice Smyth.

At a meeting of the friends and patients of the late Dr. Sidney Brice Smyth held in Belfast on June 23rd it was decided to raise a fund for the endowment of a cot in the Belfast Hospital for Sick Children as a fitting memorial of his life and the valuable work which he did in the hospital. An influential committee was formed and it was announced by the chairman at the conclusion of the meeting that the amount subscribed and promised up to date was £423, made up of sums varying from £25 to 2*s.*

British Medical Association: Ulster Branch.

At the thirtieth annual meeting of the Ulster branch of the British Medical Association held in Belfast on June 24th it was decided to ask the British Medical Association to hold its annual meeting in Belfast in 1909, and a general committee was appointed to make arrangements for this proposed meeting. Sir William Whitla has been nominated in the event as President-elect, and Dr. H. L. McKisack, Dr. Howard Stevenson, and Dr. C. E. Shaw as honorary secretaries.

The Belfast Hospital for Sick Children.

Dr. R. R. L. Leathem has been promoted to be physician to the Belfast Hospital for Sick Children and in his place Dr. James Colville has been elected assistant physician.

Birthday Honours.

The only Irish medical honour conferred on the present occasion is that of Dr. Peter O'Connell who is made a knight. He was for a time a member of the Belfast corporation and was elected by them as the first Roman Catholic high sheriff last year. He is surgeon to the Mater Infirmorum Hospital and a district surgeon to the police.

June 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Congress of French Medical Practitioners and the Reform of Medical Education in France.

THE Second Congress of French Medical Practitioners assembled at Lille on June 25th. The programme was a continuation of that which occupied the first meeting of the congress held in Paris last year, and included the reform of medical education, the freedom of the victims of industrial accidents to choose their medical attendant, and other matters. Last year's congress led to no practical results. A crowd of orators took the occasion to air a diversity of opinions in more or less violent language, with the result that the gathering, taking its tone from political meetings, came to resemble a somewhat rowdy trade union demonstration. However, the Government can no longer remain deaf to the oft-repeated complaint that the palpable defects in the official system of medical education are partly responsible for the discredit which has fallen upon the profession. On the other hand, so far back as June, 1905, the Minister of Public Instruction took the opinions of all the Faculties of medicine in the country as to what reforms were necessary, and in November, 1906, the Faculty of Medicine of Paris itself brought forward a complete scheme of reform. For this reason, immediately after the Practitioners' Congress in Paris, the Minister constituted an important commission to inquire into the reform of medical education. This body included professors, *agrégés*, and representatives of the medical associations. The commission sat for a year and ended its labours by presenting a long report compiled by Professor *agrégé* Teissier which appeared in my letter published in THE LANCET of May 16th last, p. 1449. It is thought that the Minister is waiting to deal with the report until the conclusion of the Practitioners' Congress, at which new motions were down for consideration. For some time past this question of the reform of medical education has been a fruitful cause of dispute. Dr. Roux, the director of the Pasteur Institute, which although independent of the Paris Faculty of Medicine exercises a very considerable influence, has published in *Le Temps* the text of a statement which he addressed to the Ministerial Commission to which I have alluded and of which he was a member. The commission did not support his conclusions and a great stir has been caused by their publication. He advocates the abolition of the system of *agrégé* professors, whom he would replace after the German model by *privat-docenten* with uncontrolled teaching powers who would be remunerated by their own pupils; these men would form a distinguished body of workers and the most successful teachers among them would be ultimately chosen for the chairs of the faculty after holding posts as assistant professors. It must be understood that this system finds most favour amongst the general body of medical men at the present day, for the existing machinery for the election of *agrégés* (*le concours d'agrégation*) has fallen into rank disfavour. Nobody is eligible for a professorship who has not passed a special examination, in which it is alleged that jobbery plays a considerable part, as in all medical examinations at the present time. These methods have had the effect of creating a privileged body, the members of which are elected without due regard to merit, and no man outside this ring can obtain an official post in the Faculty, however good a record of work he can show. It is contended that a body of *privat-docenten*, elected upon a more liberal basis regardless of persons, would prove infinitely more useful. Professor Bouchard has replied to Dr. Roux in another letter to *Le Temps*. It is an interesting contribution because it proclaims the principles controlling the guiding spirits of the faculty, which fully acknowledges that reforms are desirable provided that the existing state of affairs is allowed to remain unaltered. M. Bouchard thinks that the root of the whole matter is the Government's niggardly endowment of the Faculties, and he thinks the most urgent reform is the increase of the teaching staff and of its members' salaries. Speaking of the *agrégés*, he says that since their system of examination and admission was last revised the class of men who are elected differs very little from *privat-docenten*, since the examining body takes the candidates' original research work into its chief consideration. M. Bouchard gives the plainest proof that the faculty is not a fit body to reform itself, for it is in that very matter of the proper estimation of the merits of the candidates' work that the partiality of the jury is most apparent. If the second Practitioners' Congress starts anew a sufficiently energetic agitation in favour of abolishing the *agrégé* system it seems probable that the Minister will be obliged to act on it, and that the true reform of medical education, which in spite of the progress of the science of medince has undergone no change since 1823, will enter in a little time upon a new phase.

The Treatment of Vomiting in Tuberculous Patients.

At the Hospitals' Medical Society on June 19th M. Lion recorded his experiences with subnitrate of bismuth in the treatment of vomiting in tuberculous patients. He gives a morning dose of 20 grammes and has always found its administration for 12 consecutive days to be perfectly well tolerated. Good results are often apparent from its use from the first day, and the vomiting does not recur even after the administration has been discontinued. The treatment has no effect on the cough but when this is present it no longer causes vomiting and has another beneficial action in allaying the symptoms of painful dyspepsia. The only disadvantage which M. Lion has found from it has been the occurrence of a little diarrhœa in several cases.

State-Employed Workmen and the Campaign against Tuberculosis.

The Board of National Manufacturers, brought face to face with the constantly increasing ravages of tuberculosis in its workshops and factories, has hit upon the good idea of coöperating with the Association to Protect Children against Tuberculosis. This was founded by Professor Grancher and is presided over by Dr. Roux and concerns itself exclusively with prophylaxis, its method being to board out the healthy children of poor tuberculous persons in the families of country people. This saves the pocket of the patient and the health of his children. The adoption of these methods by the State Board of Manufacturers is a signal honour for the association.

Tuberculosis among Laundrymen.

On June 16th M. Landouzy communicated to the Academy of Medicine a capital study of the marked increase of tuberculosis among laundrymen, especially those living in the suburbs of Paris. He considers that these unfortunate men get infected from the linen of their Parisian clients; they then go into hospital, leaving their lodgings infected so that their successors contract the disease. Suresnes, Puteaux,

Forfarshire Medical Association.

A dinner was held on June 18th, Dr. A. Key of Montrose presiding. The guests included Professor J. Glaister of Glasgow and Dr. Angus Fraser of Aberdeen. Dr. Key, in his address, predicted the increase of small-pox owing to the numbers who took advantage of the "conscience clause," introduced, he said, by a facile Government at the bidding of a noisy lot of faddists. Dr. J. D. L. Macalister of Forfar was appointed President for the coming year.

Death of Dr. Andrew G. Dow.

Dr. Andrew G. Dow died at his residence, 26, South Tay-street, Dundee, on June 18th, after a brief illness.

June 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Auxiliary Lunatic Asylums for Ireland.

OUR county councils and boards of guardians are becoming every day more impressed with the necessity of making a wider provision for the victims of insanity and a more humane arrangement for the harmless lunatics who are now scattered through the various workhouses. After the passing of the Local Government Act the Roman Catholic Bishop of Ross pointed out to the Cork asylum committee that the incurable lunatic and the harmless pauper lunatic might be much more economically and, at the same time, humanely treated by the establishment of auxiliary asylums in the partially used workhouses or the workhouses that would be available if a proper amalgamation of unions took place, thus avoiding the expense of new and costly additions to the existing asylum buildings. This view of Dr. Kelly prevailed after some preliminary official resistance. The Youghal auxiliary was set up and it has satisfactorily realised the objects for which it was established. The same question is now being vigorously—even acutely—discussed in Clare county. There are 444 inmates in the district asylum at Ennis, while the requisite sleeping accommodation is but for 373. There are about 250 insane inmates in the Clare workhouse; and, accordingly, provision is needed in this county for a total number of nearly 700. An estimate has been obtained of the cost of the additions to the existing asylum which the accommodation of the whole number would require. The calculated amount is £45,994 and the transference of the 250 pauper lunatics to the central asylum would involve a considerable addition to the annual outlay. In presence of these facts the county council has considered the question of following the Youghal precedent. It passed a resolution a year ago in favour of taking over the Tulla workhouse as an auxiliary asylum. This involved the amalgamation of the Tulla union with an adjoining one and the Local Government Board ordered an inquiry into the feasibility, &c. The results are embodied in a letter to the county council—a document which is highly deserving of the attention of the county councils and asylum authorities throughout Ireland. The only argument against the dissolution of the workhouse is the hardship to the sick inmates. This would be minimised by a proper ambulance. The report goes to show that there would be a great saving effected by the adoption of the plan, even to represent a total saving of practically £120,000 capital in a single county. This report and its sequelæ should have influence on the future arrangements for the insane throughout Ireland.

Dublin Dairy Yards and Slaughter-houses.

The public health committee of the Dublin corporation had before it at its last meeting the following report made by its veterinary inspector, Mr. Watson, M.R.C.V.S., on the subject of a statement made by a Dr. Greene of New York, in reference to the Dublin dairy yards:—

> In a recent statement made by a Dr. Greene of New York, he suggested that the milk of our city, owing to the dirty conditions of the yards, was probably mixed with excreta of animals. My inspections lead me to think that Dr. Greene employs the colours of "The Jungle" to draw attention to his statements. He visited, as far as I know, four dairy yards. The first, it is admitted, was irregular; it was not, however, at the time of our visit being used for dairy cows. There were about 30 cows in the yard, all of which were dry and fattening for beef. The proprietor of this yard milks 200 cows for his milk-supply. These were away on grass on the occasion referred to. There was a milk store in connexion with the yard, which was scrupulously clean. The other yards did not call for any comment as to want of cleanliness or order; but in one, our American friend seriously criticised the architecture of the cow-house or shed, and I do not join issue with him, for it was an uncomely structure, but no matter how inartistic, if a shed is ample in air-space, light, and ventilation, and attention is paid to cleanliness, the milk-supply is not likely thereby to be contaminated, and that is my chief concern.

On June 27th four summonses were heard at the suit of the corporation against butchers for the use and occupation of private slaughter-houses. According to Mr. T. M. Healy, who defended the butchers, the corporation was trying in an unfair way to compel butchers to resort to the municipal abattoir, and the arguments of the defence prevailed, the summonses being dismissed in two cases and withdrawn in two cases, but the corporation received its costs.

Tuberculosis Exhibition Opened in Wicklow.

The Tuberculosis Exhibition was opened on June 23rd by the Countess of Aberdeen, who was accompanied by Sir W. J. Thompson. In the course of the proceedings enthusiastic promises of support to Lady Aberdeen's propaganda were made by the various speakers, one of whom, Mr. James Girnon, a member of the urban district council, made a most important speech. He stated that to his mind there were others besides the common people who wanted to be educated into a sense of the responsibilities which they owed to the country and the people. In this connexion he meant the responsible boards which were intrusted with the government of the country, and in the forefront of these he would place the Board of National Education. If the same neglect of the material wants of the young prevailed in any degree throughout the country as obtained in Wicklow it was no wonder that consumption spread throughout the land. The national school in Wicklow was condemned as insanitary 14 years ago by an inspector of the National Board, but from that day to this the National Board and the Board of Works had failed to carry out the building of the new schools. Until these boards were made amenable to the force of public opinion the health, education, and material interests of the people would be neglected. A local branch of the Women's Health Association was then formed, all the prominent ladies of the town and neighbouring district becoming members.

Report of the Veterinary Surgeon to Belfast Corporation.

The first annual report of Mr. J. A. Jordan, veterinary surgeon to the corporation of the city of Belfast, for the year ending April 30th, 1908, has just been published and is a very interesting document. He points out how unsatisfactory inspections of carcasses are (especially outside the city boundary) without the viscera, particularly in the case of tuberculosis. There are seven licensed private slaughter-houses in Belfast and three for the slaughter of swine, where, on an average, about 3000 cattle, 4250 sheep, and 7979 swine are annually slaughtered. It is curious that for the past ten years not a single seizure has been recorded. Mr. Jordan wisely advocates abolishing all such licences. There is one knackery in Belfast where about 500 horses are killed each year. Mr. Jordan is against any additional licences for such places being granted. As to pork, he recommends the establishment of a meat inspection depôt at each of the railway termini, through which all meat coming into the city by rail would have to pass, that coming by road to be taken directly to the inspection station. It is scandalous that pork not inspected in country districts finds its way into Belfast as bacon. In the Belfast pork market 18,330 carcasses were examined in the year, and of these three were wholly condemned, and 274 were passed after removal of diseased glands for tuberculosis; four were wholly condemned for other causes. During the year 57,956 animals (cattle, calves, sheep, goats, deer) were slaughtered at the abattoir, and of these 521 carcasses were partially or totally destroyed as being unfit for food. A certificate is given condemning the site of the existing Belfast abattoir signed by Dr. J. McCaw, president, Ulster Medical Society, Dr. C. J. Clibborn, Local Government Board Inspector, and Mr. H. W. Bailie, medical officer of health. In reference to suitable *sites* for the new abattoir Mr. Jordan recommends the present horse fair. A good regulation in Belfast is that all meat killed outside the city and brought into the city for sale must, before being sold or exposed for sale, be brought into the inspection station. A series of appendices are attached to an admirable report.

her life because she was subject to epileptic fits, which constantly lost her her situations. She had taken at different times phosphorus and caustic potash, and finally she resorted to swallowing pins. The last attempt consisted in swallowing two open safety-pins and five hairpins. Soon afterwards she complained of intense gastric pain with general debility. Her story was doubted, as x ray examination and prolonged careful search of the fæces showed no trace of a foreign body in her alimentary canal. Her mental condition necessitated her detention in the insane ward. Here she developed symptoms of septicæmia and an empyema of the right side was found. An operation was performed (resection of the rib and evacuation of the pus) but the patient gradually sank and died. The necropsy showed the following conditions. There were multiple abscesses of the brain, both lungs, and the spleen, in addition to a subphrenic abscess and a pleural empyema which communicated with each other by a hole in the diaphragm of the size of a half-a-crown piece. The point of a pin was felt in the left lobe of the liver, where it was bound down by firm adhesions to the stomach. This organ was then opened and its mucous membrane was found covered with small old hæmorrhages. Next to the pylorus the blunt end of a pin was visible. Its point was the object felt through the liver. The pin was about four inches long, similar to a hat-pin. In the lowest portion of the descending colon was an accumulation of scybala, and in them were found numerous similar pins and needles, together with a few hairpins. The entire ileum, jejunum, and part of the colon showed numerous small hæmorrhages, and in the cæcum several small abscesses of the intestinal walls were found. There were many adhesions between the intestines and the abdominal walls, generally at the site of perforations of the gut. The pins had all travelled down the alimentary canal except one which had become lodged in the stomach and liver. Two and a half years had elapsed since the first attempt to swallow needles, and it is very likely that none had left the body *per vias naturales.*

The Operation for Cancer of the Penis from a Modern View.

Docent Dr. Föderl at a recent meeting of the Gesellschaft der Aerzte showed a patient who had suffered from an ulcerated tumour of the penis a year and a half ago. He also showed the parts which were then removed from him. Dr. Föderl operated on the same principles as are followed in the operation for cancer of the mamma—namely, complete removal of the cancer and of the glands, if possible with the fat. He began by making a horizontal incision above the symphysis pubis, curving it both ways so that all the inguinal glands on both sides were easily extirpated. When the middle line was reached the incision was carried down to the penis, and then an oval incision around the penis was made. The urethra was isolated so that it could be implanted into the perineum, the corpora cavernosa were secured between ligatures and the root of the penis was then divided, whilst the dorsal lymph vessels, the glans, the cavernous bodies and the penis minus the urethra were removed *en bloc*. The experience of surgeons shows that even if the carcinoma has been situated at the glans itself a deep amputation of the penis is soon followed by a recurrence, or rather by what ought to be termed local metastasis in the scar, due to a lymphatic carcinomatous infection of the dorsal lymph vessels, which occurs very quickly. Malignant tumours of the penis must be dealt with in the same way as cancer in any other organ. The result of the operation was very good (freedom from recurrence for a year and a half at present). The patient has fair control over his urethra, which was implanted near the anus.

Vienna, June 27th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Scientific Research in India.

THINGS are happily very much changed since the time when Ronald Ross uttered his exceedingly bitter cry as to the scientific medical research in India. Then a medical man in any of the public services who showed a bent towards original investigation was regarded suspiciously as a crank. Such things must always be; the genius must be ahead of his times or where would genius find its opening? The main body of thought follows the pioneer but slowly; and yet it may be said that if the Imperial mills work slowly they certainly grind small. The inertia of a machine-like Government is enormous and it takes time to set it in motion; once in action, however, the results are usually thorough. A satisfactory proof of this is afforded by the report of the Advisory Committee for the Tropical Diseases Research Fund for 1907. The committee was formed in 1904 and consists of members whose names are the best guarantee for efficiency and enlightenment. The death of Sir M. Foster made a serious breach in its ranks, but his place has been filled worthily by Dr. J. Rose Bradford. The funds at the disposal of the committee for the year under report amounted to £3075. The functions of the committee are to administer such funds to the best advantage and to collect and publish the reports of the various research laboratories. The committee further advises Government on questions of tropical hygiene and keeps in touch with the various workers, and while in no wise hampering originality suggests lines of activity and affords assistance and advice. The present report embodies a very large and important mass of original work. The campaign against tropical diseases has been fairly opened all along the line. Every parasitic enemy of the human race now finds a group of specialists opposed to it. New titles are bestowed on the leaders. We read, for instance, of a professor of helminthology, of a protozoologist, and of an arthropodologist, who, by the way, is Lieutenant-Colonel A. W. Alcock, I.M.S., so well known as a naturalist in India. Naturally the committee complains that the funds are insufficient for all it would like to do. Nevertheless the beginning is very good and the rest will come. Reports are to hand from every corner of the world —British Guiana, Ceylon, the Malay States, Africa, the West Indies, the Straits Settlements—all send their quota, and the success already obtained is real and important.

Sanitary Reform in Bengal.

The committee of the Calcutta Trades Association has addressed the Secretary to the Government of Bengal, Municipal Department, in terms of approval of the proposed improvement of the sanitary services in India. The committee of the association observed that the sanitary boards which it is proposed to establish are in addition to certain officials to include in their number one or two non-officials who are to be natives of India. The committee considers that while it is desirable to have the non-official community represented on these boards it would be a grave mistake in the case of many towns and cities to exclude European non-officials. In regard to the staff of medical officers of health in this country the committee is in entire accord with the suggestion that its hands should be strengthened. The committee of the association also supports the suggestion that a special European officer of health should be allotted to every town with a population of 100,000 and that for every additional 100,000 inhabitants there should be an additional European assistant health officer.

Cholera and the Mohmand Field Force.

Owing to the outbreak of cholera among the troops several changes in regiments forming the first three brigades had to be made almost at the eleventh hour. The Northumberland Fusiliers, originally in the 1st Brigade, have not been able to take their place in their brigade. A few cases of cholera occurred among them, but the latest reports fortunately show that they are now free from cases. The Guides Infantry, who returned from Landi Kotal with cholera, have also been prevented from going. Their place was to have been taken by the 4th Gurkhas, but the latter regiment, which was railed to Peshawar from Abbottabad, arrived with three cases of cholera and shortly after developed two more. Their place was accordingly taken by the 19th Punjabis from the 4th Brigade. The most serious outbreak has, however, occurred among the Munster Fusiliers, as I mentioned in my last letter. It has prevented that gallant regiment from taking any part in the expedition. Fortunately the mortality has been unusually low, and it is now hoped that the worst is over. The West Yorkshire Regiment, which arrived from Nowshara almost at the same time as the 4th Gurkhas, marched out at once to Shabkadr. Several of the units infected with cholera are in camp near Haraina, about ten and Billancourt have become in this manner veritable hotbeds of tuberculosis. The only remedy is to insist upon the disinfection of the linen of tuberculous patients, and to effect this the notification of the disease is necessary. Unfortunately notification and the consequent disinfection subject the unfortunate patients to absolute persecution, for landlords and hotel proprietors alike give them notice to quit. But the danger to the rest of the community is becoming so serious that notification seems more and more to be a necessary evil. M. Lereboullet supported M. Landouzy's contention and so did M. Lancereaux, though he said that it was necessary to be quite clear as to the rôle played by alcohol in the etiology of tuberculosis amongst laundry workers, for many employers paid their workpeople, both men and women, in alcohol, or even kept a canteen in their establishment.

The Radio-activity of Thermal Springs.

It is a recognised fact that the therapeutic properties of warm springs are partly due to their radio-activity. On June 22nd M. Armand Gautier communicated to the Academy of Sciences a note by M. Garrigou who has recently demonstrated in a fresh manner the reality of this phenomenon as far as it concerns the warm springs of the Pyrenees. To do this he employed an ingenious photographic method. He inclosed a sensitive film in a hermetically sealed aluminium tube and immersed it into the water of the spring, with the result that the film was affected by the rays. When the experiment was repeated with a leaden tube, which is impermeable to the radium emanations, no impression was produced on the film. It stands to reason that in performing the first experiment the greater the radio-activity of the water the quicker the effect will be produced.

The Photography of Sounds.

M. Poincarré presented to the Academy of Sciences on June 22nd the results of researches upon the "photography of sounds" by MM. Georges and Gustave Laudet. These investigators, whose method is one of intensive reconstruction of speech by a mechanical device, have not before made public their photographic sound-records. The photographs which were shown at the Academy are remarkably clear and allow the phenomena of phonation to be analysed in a way hitherto unthought of. The smallest details of vocalisation, lisping, and breathing are exquisitely reproduced and vibrations are recorded of no greater range than 1-50000th of a millimetre.

Projected Visit of French Medical Men to London.

A visit of French medical men to London and the Franco-British Exhibition has been arranged at the invitation of the staff of the French Hospital in London, by one of its members, Dr. Leonard Williams, and other English medical men, with the assistance of Dr. Heuzé of Paris. The object of the trip will be to explore London with the greatest possible comfort and it will be less of a scientific expedition than an outing for medical men interested in all the arts. The party will leave Paris on Sunday, July 12th, and will return on the following Sunday evening; its members will have the opportunity of visiting the hospitals in the morning and will spend the afternoons in seeing the museums and public buildings. They will be "personally conducted" by a guide speaking French. The medical men who go will be able to take their wives and children, and the total expenses will not exceed 250 francs for each person. Dr. Heuzé, 10, Rue de St. Petersburg, Paris, will supply all information concerning the trip.

June 29th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Zürich Sanatorium for Consumptives.

THE ninth annual report of the sanatorium for poor consumptives of the Canton of Zürich, which is situated in the hills above Wald, has just been issued and contains some interesting details. During the last year 143 men and 159 women were treated, of whom 273 were suffering from consumption. The average stay was 139 days. 46 per cent. were in the first, 17 per cent. in the second, and 37 in the third stage (according to Dr. Turban's classification). 84 per cent., the usual percentage, were discharged in an improved condition, 70 per cent. being fully fit for work. The medical director, Dr. Staub, has made a very careful investigation with regard to patients under treatment at Wald during the years 1899 to 1905 and received answers from 90 per cent. of the patients. Dr. Staub has grouped them according to the stage of their disease. Of the patients treated in the sanatorium during the first stage 84 to 72 per cent. were still fit for work after periods varying from two to eight years, the percentage of the patients for 1899 being as high as 89. Of the patients in the second stage 53 to 31 per cent. were capable of undertaking their usual work; of those in the third stage only 33, 26, 24, 14, 24, 10, and 5 per cent. in the respective years. We thus have the clearest of evidence to show that for effective treatment patients should be sent to a sanatorium when in the first stage. A new wing is being built to receive children and £4000 towards the cost of £9000 necessary for the purpose was raised at a bazaar held in Zürich last year.

Cancer of the Uterus in Switzerland.

Cancer of the uterus causes about 300 deaths per year, or 99 per 1,000,000 inhabitants, in Switzerland. The number of deaths in the 30 years from 1876 to 1906 has increased from 2102 to 2136 and 2343 per decade, the total being 6581 deaths in 30 years. There has been no actual increase but a slight decrease, as the population is greater. The average age at death is 56 years. Statistics show that 8·15 per cent. of all fatal cancers (which numbered 37,387 in 30 years) are uterine and 16·49 of all fatal cancers occurring in women are uterine.

Zürich, June 23rd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Professor Erben on Ataxy.

A VERY interesting lecture on ataxy was delivered before the Medical Society in Vienna by Professor Erben in which he raised several new points as regards the physiological explanation of the condition. All experiments have shown the fact that equilibrium is maintained only by coöperation of three factors—the muscles, the joints, and the soles of the feet. The last are sensitive to all changes in the equilibrium of the body and give information as to whether the main weight of the body is projected towards the heel or the great toe in sagittal direction. The normal individual experiences variations of equilibrium of the whole mass of the body, but besides this the tabetic patient experiences also spontaneous movements of the joints which account for his abnormal swaying. These spontaneous movements of the joints are very important; they are often underrated in their effect. They are to be accounted for by loss or diminution of the deep sensibility of the affected joints. They appear only on voluntary muscular effort and disappear in joints where there is no active contraction of the muscles. They can be overcome by strenuous muscular effort and it is for this reason that many tabetic patients exhibit the peculiar striding gait, the powerful contraction of the flexor and extensor cruris muscles freeing the knee and the joints of the foot from their spontaneous movements. If a tabetic patient is allowed to touch the wall with one finger whilst he is being tested for Romberg's sign he still sways but does not lose his balance; the finger is insufficient to stop the involuntary movements of the joints. If an ataxic patient is made to stand with his legs wide apart and his eyes closed then an opinion may be obtained as regards his loss of plantar sensibility. If it is only slightly impaired very slight swaying is observed, mostly backwards and forwards. A lateral swaying shows that his deep sensation is much impaired and he can no more differentiate whether his right or left foot is bearing the main weight. If lateral swaying appears only when the base is narrowed by bringing the soles nearer to each other, it indicates that sensibility on one side is markedly diminished. Spontaneous movements of the joints are not pathognomonic for tabes, for they have been observed in various disturbances of sensibility of both cerebral and peripheral origin.

A Fatal Case of Pin-Swallowing.

A recent post-mortem examination of a girl, aged 20 years, who had succumbed to a protracted illness diagnosed as septicæmia, revealed some very interesting facts. The girl, who was a domestic servant, had been sent to hospital as she had attempted on several occasions to destroy

miles from Peshawar, along the Shabkadr Road, the remainder being in the vicinity of Shabkadr and Mutti Moghal Khel. As far as Peshawar city is concerned there are now few cases of cholera occurring, and every precaution is being taken both in the city and the cantonment to prevent any spread of the disease.

Cholera and Plague in Calcutta.

Calcutta was spared a cholera epidemic during the late Ardhodaya Jog festival, thanks to the precautions of its sanitary services, but the disease made its appearance some time later and is now raging in the city, but is confined chiefly to its northern half. The outbreak, according to the municipal health authorities, is not so intense in its severity as that of January, 1907, but seems to be part of an epidemic extending over a large part of Bengal. It is probably associated with the lowness of the water in the Hooghly, which is found on analysis to be more than usually contaminated at the present time. On the other hand, so far as the plague scourge is concerned, it is satisfactory to learn that the outbreak this year proves to be very limited in extent. We have arrived at what is usually the period for the height of the plague mortality, but the returns for the last two weeks show that the numbers of deaths daily do not amount to even half of what they were at this time last year.

New Standard Plan for Barracks.

The new barracks for British infantry which have recently been built by the Military Works Services at Jubbulpur, Ahmednagar, and Quetta are a great improvement on the old form and will serve as a model for all future buildings of this character in this country. In the past the general practice was to build barracks in the form of a cross, in the two ends of which were the dormitories with the dining-rooms, &c., across the centre. Under this arrangement the cook-house was placed at some considerable distance from the dining-rooms, so that not only did the food arrive cold but the kitchen itself was not under proper supervision. Under the new system of building four dormitory blocks are placed at the corners of a parallelogram, each dormitory accommodating a half company. In the middle of the parallelogram there stands a long building, in the centre of which are placed the two kitchens and at each end are the dining-rooms, each of which accommodates one company. The dinners are served through a hatch connecting the dining-rooms with the kitchens and arrive hot, while the kitchens themselves can be looked after in a most satisfactory manner. The kitchens will be equipped with Warren's cookers in place of the old smoky "chulas," while the dining-rooms will be provided with fly-proof doors and windows.

Tour of an American Man of Science.

Dr. G. A. Dorsery, American ethnologist, curator of the anthropological section of the Field Columbian Museum, Chicago, is visiting Darjeeling, Assam, Chota Nagpur, Madras, and Ootacamund to see various hill tribes. He thence journeys through South India, crosses to Colombo in Ceylon, and will subsequently proceed to Sumatra, Java, Celebes, and Borneo. When his work there is completed he expects to make a long stay in the Philippines where three of his assistants are working. He will then return to America.

Wild Animals in the Central Provinces.

In the Central Provinces human mortality caused by wild animals has decreased. Tigers, however, claimed more than a fair percentage of the mortality. In Chanda there were 21 such fatalities. There are said to be three man-eaters in Baihar Tahsil. A case is reported where a Gond was mauled by a tiger and rescued by a band of villagers and then snatched away from the rescuing party on its way home. The destruction of a man-eater panther in the Panabaras Zamindari brought about a decrease in deaths in the vicinity. Snakes killed 996 persons, which is reported as being the lowest figure returned in any one of the last seven years. Experiments are still proceeding with the Lauder Brunton treatment of snake-bite by incision and application of permanganate of potassium. There is an increase of about 1000 in cattle mortality, tigers being credited with most of the kills, with panthers a good second, and then wolves. The reward for the slaying of panthers has now been increased to Rs. 25.

May 21st.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Royal Prince Alfred Hospital.

THE twenty-fifth annual meeting of the governors of the Royal Prince Alfred Hospital, Sydney, was held on April 27th, His Excellency Sir Harry Rawson, the State Governor, presiding. Professor Anderson Stuart, the chairman of the hospital board, read the annual report. The number of in-patients treated was 4553 and the number of operations was 5 per cent. higher than the previous year. The new department for therapeutic inoculation was hardly in full swing but promised good results as an adjunct in the treatment of disease. An important amendment of the by-laws permits senior members of the staff to serve 18 years instead of 12 as formerly, and every member of the medical staff must retire at 60 instead of 65. He claimed that no more complete operating facilities existed in any part of the world than those provided by the new theatres at the hospital.

Hospital Saturday.

The annual collection in aid of the Sydney hospitals was taken on May 2nd and the streets were invaded by lady collectors who "held up" every passer by. The effort was remarkably successful, a sum of £6380 being realised. Over 10,000 more coins were received than on the last occasion; they consisted of 13 sovereigns, 46 half-sovereigns, 347 half-crowns, 230 florins, 1286 shillings, 7687 sixpences, 4209 threepenny-pieces, 58,983 pence, and 37,512 halfpence. Altogether four and a half tons of copper coins were collected.

Melbourne Milk-supply.

The present season is the driest that Victoria has experienced for many years and pasturage is very deficient, with the result that starving stock are being deported to New South Wales. The *Argus* has recently raised the question that the visible supply of milk is insufficient in the metropolitan area and that extensive adulteration must exist in order to make up the shortage. Leading dairymen, while not prepared to admit that adulteration is practised to the extent that the *Argus* figures indicate, agree that it would be a good thing at the present time to encourage a much stricter inspection so that offenders may be caught. The estimate referred to was that the daily consumption of milk in Melbourne was 5425 gallons more than would be accounted for by the milk produced in, or forwarded to, the city. Mr. Cameron, head of the dairy supervision branch of the Agricultural Department, in a newspaper interview, stated he thought it would be unreasonable to say that the whole of an apparent shortage was made up by adulteration. The price of milk had advanced from *4d.* to *5d.* per quart and probably less milk would in these circumstances be consumed. He further said, "I feel satisfied that milk cannot be obtained from sound healthy cows under wholesome and sanitary conditions and be distributed by the present expensive methods at a reasonable business profit for a price of less than *4d.* per quart in normal times." A point emphasised by Mr. Cameron was the wasteful method of distribution. "A street containing 50 houses," he said, "will under present conditions be visited by five or possibly ten different milk carts, all of which are practically doing the same work." Medical men have also taken the matter in hand, for a special meeting of the Victorian branch of the British Medical Association was held on May 2nd to consider the milk-supply of Melbourne in relation to the prevention of infantile mortality. Lady Talbot had been much interested in the matter and at the request of the council the meeting was attended by His Excellency Sir Reginald Talbot, the State Governor, and Lady Talbot. The principal motion was proposed by Dr. J. W. Barrett and was as follows:—

> That this meeting approves of the establishment of a small milk-supply for educational purposes.

The following scheme was suggested:—

> (*a*) That milk shall be obtained from an approved dairy or dairies specially inspected by the Agricultural Department and shall be rapidly conveyed to the bacteriological laboratory of the university; (*b*) that the milk be then pasteurised or refrigerated or otherwise treated by approved methods; (*c*) that the milk so treated be distributed in

sterilised bottles to the Women's Hospital, the Children's Hospital, and the various crèches, and if there be a surplus to such approved people as may desire to have it; (*d*) that the treatment of the milk be under the general supervision of a small committee of medical men, including Dr. Bull, the director of the laboratory.

This was seconded by Dr. J. W. Dunbar Hooper who recently attended the International Congress at Brussels and presented a report on Infantile Mortality to the Federal Government specially recommending the adoption of some measures resembling those in force at such institutions as the "Gouttes de Lait." A committee consisting of Dr. Hooper, Dr. Jeffreys Wood, Dr. Cole, Dr. W. A. Wood, Dr. Argyle, and Dr. Bull was appointed and it was also decided to ask Dr. Norris, Chairman of the Board of Public Health; Dr. Cherry, Director of Agriculture; and Dr. Jamieson, city health officer, to act if they were willing. The committee has already held an initial meeting at which Lady Talbot was present. The question of finance appeared more difficult than was at first supposed and it is probable that the Government will be approached with a request for assistance.

Medical Man Killed.

A sad accident occurred near Traralgon, in Victoria, by which Dr. R. H. Horne lost his life. Dr. Horne, in company with his wife and a lady friend, were returning home in a motor-car, and on approaching a bridge it is supposed the steering gear became disarranged. The car collided violently with a fence and all the occupants were thrown out. Dr. Horne was seen to be severely injured and was conveyed to his house, where he died on the following day from internal injuries. The late Dr. Horne had a strongly adventurous personality. He served with Cameron's Scouts as a private in the South African War and was severely wounded through the lung. He recovered and returned to the war after being invalided home. Subsequently he travelled in China with an insurance agent and was stoned by a mob. For this the Chinese Government paid him £1000 damages. He then bought a practice at Traralgon where he has since resided.

A Cancer "Cure."

Some two or three years ago Sir John Madden, the chief justice of Victoria, startled the community by speaking and writing very strongly in favour of one Davis who for years has claimed to cure cancer by means of a special application of his own. This action was the more dramatic because "Professor" Davis has on more than one occasion attracted the attention of the Crown law authorities in connexion with the death of patients while under his treatment. The matter was brought under the notice of the Premier and a board was appointed to inquire into the alleged efficacy of Davis's "cure." The constitution of the board was partly professional and partly political. It was made up of Dr. Norris (Chairman of Board of Public Health), Mr. R. Hamilton Russell (surgeon to Alfred Hospital), Dr. Mollison (pathologist to Melbourne Hospital), Dr. Cherry (Director of Agriculture), and Mr. Duncan Turner, with Messrs. Edgar, Watt, Boyd, McBride, and Britters. The evidence taken was principally from patients of Davis. The board has presented an interim report signed by all the members except Mr. Turner. The report states that the substance employed is a caustic and destroys the tissues with which it is in contact. There was no evidence to show it possessed any selective action and no evidence to show that, as claimed, it was in any way unique or different from old and almost discarded agents of like nature. Although Davis denies that his preparation contains arsenic he does not deny that arsenic has been found in a series of post-mortem examinations in the tissues of patients who have died under his treatment. He offers no explanation except that it may be produced by decomposition. This the board rejects as absurd. None of the cases diagnosed as cancer by the medical members of the board before treatment by Davis have so far been successfully treated; and the same applies to the cases presented while under treatment and recognised unequivocally as malignant. There were five such cases and three have since died. Mr. Turner signs a dissenting report, in which he thinks that there is evidence of a selective action in Davis's remedy and that the report is generally unfair to Davis. The board has adjourned for six months in order to allow time for observation of cases now under treatment by Davis.

May 30th.

Obituary.

BERTRAM LOUIS ABRAHAMS, M.B., B.Sc. LOND., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO WESTMINSTER HOSPITAL; JOINT LECTURER ON MEDICINE AT WESTMINSTER HOSPITAL MEDICAL SCHOOL, ETC.

THE painfully unexpected announcement of Dr. Bertram Abrahams's death upon June 21st has caused a truly deep regret amongst his circle of acquaintance, whilst to those of a closer intimacy his decease is indeed an affliction, made only more grievous by its occurrence at a time when the worthy reward of unremitting hard work was well within his grasp. Dr. Abrahams was the only son of Mr. L. B. Abrahams, head-master of the Jews' Free School in Spitalfields, and like his father took the keenest interest in the social welfare of his community. He was born in 1870 and received his education at the City of London and University College schools, from which he entered University College for his medical training. He was a brilliant student from the first, obtaining triple distinction as exhibitioner, scholar, and gold medallist in his college, where he obtained the posts of demonstrator of anatomy and physiology. At the University of London he fulfilled the promise of his class work, gaining fresh laurels with each examination, which included first-class honours at matriculation and at the intermediate examinations for science and medicine, whilst he took his B.Sc. degree in 1890 by an examination that won him similar honours and the University scholarship in physiology. Five years later he became Bachelor of Medicine at the University of London, with honours in medicine and forensic medicine, after he had visited the continent for further study. He then held the post of house physician in his own hospital and in 1896 became a Member of the Royal College of Physicians of London, his Fellowship following in 1904, when he became an examiner in physiology to the Conjoint Board. Westminster is the hospital which mourns him especially, for he was appointed medical registrar there in 1899 and since that time has done splendid teaching work in its school as lecturer in physiology, pathologist, sub-Dean, lecturer in medicine, and assistant physician to the hospital. He was chosen Arris and Gale lecturer by the Royal College of Surgeons of England in 1906-07.

Dr. Abrahams excelled as a teacher and was one of the most successful tutors in London, for he had the right love of his work and a clear method of imparting his knowledge that rendered the most difficult subjects straightforward to his pupils. It is not surprising that a man who took such pains with the students of his hospital began to reap his reward in an increasing consulting practice at a comparatively early age, and both in his hospital and private work his opinion upon a case of difficulty repeatedly justified the confidence that was placed in it. He was a man of wide interests outside medicine, a prominent Freemason, and an enthusiastic cricketer. In the craft he was a P.G.J.W. of Surrey, and his love for athletics was testified by his interest in the Jewish Lads' Brigade, which he took an active share in founding; he attended its summer camp for many years as principal medical officer. He was at one time medical inspector of schools to the London County Council. The name of his friends was legion, for he had an attractive manner and a sense of humour.

Dr. Abrahams's most important contributions to literature were his articles in Allchin's "System of Medicine" on Myalgia, Myositis Ossificans, Medical Applications of Electricity, and Diseases of the Mouth, Pharynx, and Œsophagus; his contributions to the "Medical Annual" and to periodicals included work on Rheumatism, Chorea, and Diseases of Metabolism. He was a member of the principal English medical societies, and several of his studies are included in the Transactions of the Clinical Society in 1898 to 1899. There is no doubt that his devotion to work overtaxed his strength and hastened his death which was due to kidney trouble. The knowledge of this complaint had sent him to Egypt for several winters past. 12 years ago he married the only daughter of Mr. A. J. Simmons, who survives him with a daughter, their only child.

Sir William H. Allchin writes: "My acquaintance with the late Dr. Abrahams dates from the year 1899 when he was appointed as medical registrar at the Westminster Hospital. It was soon evident that the brilliant record of academic success, both at the University and at University College, with which he came to us was fully justified, for he at once took his place amongst us as a physician whose knowledge was based upon the soundest and most recent physiological and pathological principles, which his inborn ability and clinical acumen had developed and applied. And so his professional reputation remained with us to the end. But there was a good deal more to be said of Abrahams than that he was a good and able physician. He was a good and able all-round man. To the thorough understanding of the fundamentals of the science and art he was pursuing he added an exceptional power of imparting to others the knowledge he possessed; and this in the clearest language, whether written or spoken. He thus possessed all the essentials for a successful teacher, and it is not going too far to say that for some years past a very considerable share of the medical teaching at the Westminster Hospital has devolved upon him. He liked it and threw himself into it with keenness, whilst a considerable gift of satire that was never unkindly added a zest to his instruction that served to hold the students' attention and gave interest to his remarks. His appointment as assistant physician to the hospital in 1903 increased his opportunities for teaching both in the out-patient room and in the school, and as one of the lecturers in the department of medicine he delivered a course on Applied Physiology, in which the perversions of physiological processes in disease generally were outlined, constituting a most valuable introduction to the subject of medicine proper. No one was more capable of doing this than Abrahams, and it is hoped that his lectures were left in a sufficiently prepared state for publication, as it is known was his intention. But there was something over and above Dr. Abrahams's ability as a physician and excellence as a teacher that endeared him to his colleagues and students and that made him at once so acceptable to most of those whose acquaintance with him was even but slight. There was a straightforward and clear-headed directness that induced a belief in him directly; there was no pettiness or self-interest in the way he regarded and dealt with the many questions upon which differences of opinion must of necessity exist among a number of men, combined though they be in the pursuit of a common purpose. His ready perception of the important points of any question at issue and the consistency with which he maintained his opinion when once it was formed rendered him an invaluable supporter to any cause he undertook, and made his advice sought for by many of his seniors, who knew that his actions might be relied on to back up his words and that whatever happened Abrahams would go straight and not fail him. The thoroughness with which he threw himself into whatever he undertook, whether it was the school cricket club or the Jewish Lads' Brigade, which he helped to found, or the graver questions of professional politics as they presented themselves at the College of Physicians, where though a Fellow of but a few years' standing he was already taking up a position, contributed in no small degree to the popularity of which his pleasant kindly manner laid the basis. No man is indispensable and few are they who cannot be replaced, but it is unlikely that for some time at least the niche that he has left in the entire community of the Westminster Hospital and School will be filled by one so many-sided, by so loyal a colleague and friend, and by so cordially esteemed a man as Bertram Abrahams."

THOMAS GARRETT HORDER, M.R.C.S. Eng., L.R.C.P. Edin.

We announced last week the death of Mr. T. Garrett Horder, a well-known and zealous worker in the cause of medical reform, which took place on June 15th at his residence at Cardiff. Mr. Horder, who was 70 years of age, received his education at the City of London School, whence he proceeded to the London Hospital and obtained the Membership of the Royal College of Surgeons of England in 1866. In 1873 he became a Licentiate of the Royal College of Physicians of Edinburgh and after acting as house surgeon and secretary to the National Sanatorium at Bournemouth he went to Cardiff, where he took an active interest in politics and greatly interested himself in municipal affairs. For many years he served on the school board, where he did good work by his advocacy of open-air recreation and gymnastic instruction for school-children. Though unsuccessful in his attempts to obtain a seat on the borough council (he fought three elections) he never ceased to work for the good of his borough. His great interest in general and municipal politics, however, did not detract from the keenness with which he endeavoured to uplift and to organise his own profession, as his various contributions to the columns of The Lancet and to the medical press generally sufficiently testify. As honorary secretary of the Hospital Reform Association he worked hard for the cause which he had so much at heart, and the address on Hospital Reform which he delivered before the Manchester Medico-Ethical Association some ten years ago[1] shows that he had a thorough grasp of his subject, though we were not always able to endorse all his suggestions for reform. He was an ex-President of the Cardiff Medical Society and a member of the council of the Medical Defence Union and joint honorary secretary of the Ethical Section of the British Medical Association. He was also public vaccinator for Cardiff. The deceased gentleman, whose death will be deeply lamented by all members of his profession no less than by his many lay admirers, was a brother of the Rev. W. Garrett Horder, the hymnologist, and leaves to mourn their loss a widow and one son.

Medical News.

University of Cambridge.—The following degrees were recently conferred:—

M.D.—R. E. Whitting, King's.

M.C.—E. H. Douty, King's.

M.B., B.C.—E. G. Fearnsides, Trinity Hall; E. B. Hinde, Emmanuel; R. C. Priest and K. D. Pringle, Gonville and Caius.

M.B.—J. H. B. Martin, Emmanuel; and S. L. Walker, Sidney Sussex.

B.C.—H. S. Berry and H. J. Cardew, Clare; J. B. Mennell, Pembroke; G. D. Alexander, R. Burgess, and H. N. Little, Gonville and Caius; J. B. Banister, Jesus; and J. F. Windsor, H. Selwyn.

At examinations for medical and surgical degrees (Easter term) the following candidates were successful:—

First Examination.

Part I., Chemistry and Physics (Elementary).—K. B. Aikman, Clare; C. S. Atkin, Caius; G. L. Attwater, Pembroke; J. Aydon, Clare; D. C. G. Ballingall, Emmanuel; H. A. Bell, Jesus; G. A. G. Bonser, St. John's; H. J. Bower, Emmanuel; E. C. Bradford, Pembroke; R. St. L. Brockman, Caius; A. E. Brown, Christ's; E. H. P. Brunton, Trinity; S. Butt, St. John's; R. N. B. Byatt, Clare; F. L. Cassidi, Corpus Christi; G. M. Chapman, Caius; W. H. W. Cheyne, Trinity; M. T. Clegg, Jesus; G. D. Compston, Trinity Hall; E. H. Copeman, Christ's; A. C. M. Coxon, Magdalen; H. E. Creswell, Caius; J. L. Crommelin-Brown and H. V. Deakin, Trinity; B. C. Ewens, Caius; E. Ezra, Peterhouse; W. D. Galloway, Clare; N. Garrard, Pembroke; N. Gray, Emmanuel; S. W. Green, Clare; J. R. Griffith, Christ's; H. G. Hooper, Emmanuel; B. L. Hutchence, Caius; C. O. Kerby, Trinity; G. C. King, Caius; C. Lambrinudi, Christ's; F. C. Lapage, King's; F. G. Lescher and G. A. Lilly, Caius; W. B. Loveless and L. A. McAfee, Pembroke; H. D. McCall, Christ's; H. Y. Mansfield, Emmanuel; J. A. Martin, Pembroke; C. F. Mayne, Caius; T. W. Melhuish, Pembroke; I. Mortada, Trinity Hall; W. New and N. F. Norman, Downing; H. G. Oliver and D. S. Page, Caius; A. A. Pallis, Trinity; C. F. Pedley, Jesus; R. A. Peters, A. C. Pickett, and S. G. Platts, Caius; E. L. K. Sargent, St. John's; C. J. Scholtz and D. N. Seth-Smith, Emmanuel; L. R. Shore and W. S. Sodden, St. John's; C. B. Spence, Pembroke; E. C. W. Starling, Jesus; R. J. Tweedy, Caius; C. F. Verrall, Trinity; P. Wallace, King's; and C. A. Weller, B. Whitehead, H. C. Whittall, and A. G. Williams, Caius.

Part II., Elementary Biology.—K. B. Aikman, Clare; S. G. Askey, St. John's; M. L. Atkinson, Emmanuel; J. Aydon, Clare; D. C. G. Ballingall, Emmanuel; P. H. Berry, King's; W. G. Bigger, Queen's; G. A. G. Bonser, St. John's; E. J. Boyd, Sidney Sussex; E. C. Bradford, Pembroke; J. C. Bramwell, Trinity; E. J. Y. Brash, St. John's; R. St. L. Brockman, Caius; A. E. Brown, Christ's; E. H. P. Brunton, Trinity; E. N. Butler, Clare; F. L. Cassidi, Corpus Christi; C. M. Chapman, Caius; W. H. W. Cheyne, Trinity; A. C. M. Coxon, Magdalen; E. D. D. Davies, Christ's; H. V. Deakin, Trinity; G. D. East, Emmanuel; B. C. Ewens, Caius; E. Ezra, Peterhouse; W. D. Galloway, Clare; N. Garrard, Pembroke; N. Gray, Emmanuel; J. R. Griffith and W. T. Hare, Christ's; A. D. Haydon, Caius; C. Helm, King's; G. J. Hill, Peterhouse; A. N. Hooper, Emmanuel; A. M. Humphry, Trinity; T. Jones, Sidney Sussex; F. G. Lescher, Caius; H. A. Lucas, B.A., Trinity; L. A. McAfee, Pembroke; H. D. McCall, Christ's; M. MacGregor and A. R. MacMullen, Caius; H. Y. Mansfield, Emmanuel; F. D. Marsh, Trinity; W. H. Marshall, Pembroke; C. F. Mayne and A. T. Miller, Caius; I. Mortada, Trinity Hall; R. F. S. Morton, Trinity; H. G. Oliver, Caius; P. R. T. Owen,

---

[1] The Lancet, Dec. 19th, 1896, p. 1742.

Christ's; D. S. Page, Caius; A. A. Pallis, Trinity; A. R. Panter, Clare; R. A. Peters and S. G. Platts, Caius; A. St. Johnston, Trinity; E. L. K. Sargent, St. John's; C. J. Scholtz and D. N. Seth-Smith, Emmanuel; J. E. Sharp, Caius; T. W. Sheldon, Emmanuel; L. R. Shore, W. S. Soden and G. W. Spencer, St. John's; E. C. W. Starling, Jesus; M. T. W. Steedman, Clare; H. M. Stephenson, Caius; A. V. Stocks, St. John's; W. J. F. Symons, Sidney Sussex; E. S. Taylor, King's; J. B. Thomson and J. M. Thorburn, Trinity; E. R. Thurston, Caius; C. F. Verrall, Trinity; P. Wallice, King's; C. A. Weller and B. Whitehead, Clare; and K. J. Yeo, Emmanuel.

SECOND EXAMINATION.

Human Anatomy and Physiology.—W. B. Alcock, Trinity Hall; L. A. P. Anderson, Emmanuel; G. V. Bakewell, Clare; H. G. Baynes, B.A., Trinity; C. H. Crawshaw, Christ's; J. Ellison, B.A., and G. V. Fiddian, Downing; J. P. Hill, M.A., Caius; R. S. Kennedy, Christ's; D. N. Macleod, Caius; O. de B. Marsh, B.A., Pembroke; W. M. Oakden, Peterhouse; T. H. Oliver and J. H. Pendered, Caius; M. J. Petty, Downing; P. W. Ransom, Pembroke; W. A. Russell, B.A., and C. M. Ryley, Emmanuel; F. B. Smith, King's; J. R. A. D. Todhunter, B.A., Caius; C. Worster-Drought, Downing; and C. R. Wright, Christ's.

THIRD EXAMINATION.

Part I. Pharmacology and General Pathology.—G. D. Alexander, B.A., Caius; H. L. Attwater, B.A., Pembroke; M. W. Baker, St. John's; J. B. Banister, M.A., Jesus; R. L. Barker, B.A., Caius; H. S. Berry, M.A., Clare; A. M. Boikin, B.A., and R. G. Canti, B.A., King's; H. J. Cardew, M.A., and H. T. Depree, B.A., Clare; E. St. G. S. Goodwin, B.A., Caius; R. H. P. Hick, B.A., Christ's; A. C. Jepson, B.A., Pembroke; K. T. Khong, St. John's; R. L. Ley, B.A., Pembroke; H. N. Little, B.A., Caius; E. Mellanby, B.A., Emmanuel; J. B. Mennell, M.A., Pembroke; G. Moore, B.A., Clare; P. A. Opie, B.A., Caius; W. M. Penny, B.A., Jesus; R. L. Rawlinson, B.A., Trinity; F. H. Robinson, B.A., Queens'; A. L. Sachs, M.A., Pembroke; F. P. Saunders, B.A., Clare; C. F. Searle, B.A., Pembroke; H. E. S. Stiven, B.A., F. R. Thornton, B.A., and G. B. Wainwright, B.A., Trinity; and M. H. Whiting, B.A., Downing.

TRINITY COLLEGE, DUBLIN.—At the Final Medical Examination held in Trinity Term the following candidates were successful:—

Part II., Medicine.—William H. M'Carthy, George B. M'Hutcheson, John L. Phibbs, Dixie P. Clement, David G. Madill, Richard P. Hadden, Alexander K. Cosgrave, Ernest C. Lambkin, John A. W. Panton, Samuel F. A. Charles, Gordon A. Jackson, Gerald G. Mecredy, James R. M'Causland, George Halpin, Thomas Ryan, Alfred H. Smith, and John C. Baker.

THE HOSPITAL OF ST. JOHN OF JERUSALEM.—On June 24th the Bishop of Gibraltar preached the anniversary sermon at the commemoration services of the Grand Priory of the Order of the Hospital of *St. John of Jerusalem* in England, held at St. John's Parish Church, Clerkenwell. After an inspection of the improvements in the recently restored ancient priory crypt of the church the annual general assembly of the members and associates was held at St. John's Gate.

STATE SANATORIUMS FOR CONSUMPTION.—The Grimsby union has been asking various boards of guardians in the West of England to pass a motion expressing the opinion that the State should provide district or county sanatoriums for consumption. The majority of the boards appear to have decided, as the Bridgwater guardians did at their meeting on June 24th, that as they had already provided a special place for the treatment of local cases of consumption there was no need to take any action in the matter.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The sixty-seventh annual meeting of this association will be held on July 23rd and 24th at 11, Chandos-street, Cavendish-square, London, W., under the presidency of Dr. Charles A. Mercier. On July 23rd there will be a discussion on a proposition of Dr. D. G. Thomson:—

> That for the more efficient teaching and training of the coming generation of alienists in psychiatry the Medico-Psychological Association—in the first instance through its education committee—consider some scheme for post-graduate teaching and training, with or without the imprimatur of a diploma given after such a course (with or without examination) with a view to its being brought before the universities and other qualifying and teaching bodies.

On July 24th Dr. Robert Jones will initiate a discussion on "The Case against Dementia Præcox" and Dr. Lewis C. Bruce will introduce a discussion on Folie Circulaire and Manic-depressive Insanity—their Identity? and the Relation of the Depressed to the Elevated Stage; Dr. Alan McDougall will read a paper on the Principles of the Treatment of Epilepsy; and in the afternoon Lady Henry Somerset has consented to open a discussion on Some Aspects of Inebriety; Dr. Frank Ashby Elkins will read a paper entitled "Asylum Officials—is it necessary or advisable for so many to live on the premises?" and Dr. Horatio B. Donkin will give an account of the work of the Royal Commission on the Care and Control of the Feeble-minded. The annual dinner will take place on July 24th, in the Grand Hall, Criterion Restaurant, Piccadilly-circus, London, at 7 for 7.30 P.M.

THE League of St. Bartholomew's Hospital Nurses has sent a further sum of £500 towards the building fund of the proposed new Nurses' Home.

PROPOSED PUTNEY HOSPITAL.—The Duchess of Albany opened on the first, and the Duchess of Marlborough on the second day, a three days' bazaar at Putney last week in aid of the above hospital which is to be endowed under the will of the late Mr. Chester when built. Nearly £2300 were taken at the bazaar, which was very largely attended by the inhabitants of Putney who are anxious to have a hospital to supply the local needs of their rapidly growing district.

FATSHAN HOSPITAL, CHINA.—A new hospital in connexion with the Wesleyan Mission has been opened recently in Fatshan, Canton, South China, when Dr. W. J. Webb Anderson, the medical superintendent, conducted the dedicatory service. The new buildings consist of an out-patient hall, a block in which about 20 in-patients can be accommodated, two operating theatres, and nurses' quarters. The land occupied is about two and a half acres. The money to defray the cost of the hospital was raised almost entirely by Dr. Webb Anderson himself. There is a staff of five native Chinese female nurses. Native medical students who intend to qualify as medical missionaries receive their training in the hospital, afterwards proceeding to England to finish their education. Last year nearly 9000 paying patients were treated, besides a very large number of non-paying ones, and 355 operations were performed, so that the hospital may be said to have proved its utility from the beginning.

WEST LONDON HOSPITAL AND POST-GRADUATE COLLEGE.—The eleventh annual dinner of the West London Hospital and Post-Graduate College was held on June 23rd at the Empire Rooms, Trocadéro Restaurant, Piccadilly-circus, London, Mr. L. A. Bidwell, surgeon of the hospital and dean of the college, being in the chair. The hospital contains 160 beds; 2500 patients are treated in the hospital and over 34,000 new out-patients are seen annually. Post-graduate instruction has been given at the hospital since the year 1893 and 1339 medical men from all parts of the world have attended the classes. Of these 359 have been officers in the naval, army, and Indian medical services and 330 others have come from the colonies and foreign countries. The practice of the hospital is well adapted to the needs of medical officers of the Royal Navy and Royal Army Medical Corps and Indian Medical Service and the colonial services who have obtained leave for further professional study. Arrangements are made for all the necessary special classes required and the certificate of attendance at the college during such leave is recognised by the Admiralty, the War Office, and the India Office. The laboratory has been completely reorganised and placed in the hands of the pathologist, Dr. G. C. Low. The list of past and present members of the hospital numbers 1609. The toast of "The Imperial Forces" was proposed by Dr. H. J. Davis and was responded to by Inspector-General J. Porter, the Director-General of the Medical Department of the Royal Navy, who gratefully acknowledged the services rendered to naval medical officers by the West London Hospital Post-Graduate College. The toast was also spoken to by Surgeon-General Sir A. H. Keogh, the Director-General of the Army Medical Service, who said that by the sympathy of the medical profession there was now no dearth of candidates for the Army Medical Service; those applying were of high professional attainments and were also socially well qualified for the functions which they had to perform in the spheres allotted to them. He reminded his hearers that in time of war the whole medical profession must, and would, render assistance. The chairman proposed "The West London Hospital and the Post-Graduate College," and detailed the steps taken to secure success in post-graduate teaching. This toast was responded to by Mr. G. F. Marshall for the hospital and by Lieutenant-Colonel H. R. Woolbert, I.M.S., for the Post-Graduate College. To Dr. E. A. Saunders the toast of "The Visitors" was intrusted, and it was acknowledged by Sir Roper Partington. Mr. Aslett Baldwin proposed the health of the chairman, who suitably replied.

MEDICAL GOLFING SOCIETY.—This society held its annual tournament on June 18th at Guildford, by kind permission of the Guildford Golf Club. In Class I. (handicaps 12 and under) in the 18 holes match play *v.* Bogey, H. Tilley and D. Findlay tied with 2 up. In Class II. (handicaps over 12) F. J. Smith was first with 4 up and G. W. Dawson was second with 2 up. The scores for the best last 9 holes *v.* Bogey in the first class were H. Tilley 2 up, and D. Findlay, J. A. Willett, K. W. Goadby, and C. J. Marsh 1 up. In the second class the prize for the best last 9 holes *v.* Bogey was won by W. C. Bluck with 1 up. The "Henry Morris" challenge cup, awarded for the best score against Bogey under handicap, the winner also receiving the Medical Golfing Society gold medal, went to F. J. Smith for the second time with 4 up. The foursome sweepstake resulted in a tie between J. H. Drysdale and C. M. Hinds Howell and Clifford Price and J. H. Whitaker who returned scores of all square *v.* Bogey.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of this society was held at 6, Catherine-street, Strand, London, W.C., on June 19th. There were present: Dr. F. de Havilland Hall, in the chair; Mr. Frederick Wallace, Dr. St. Clair B. Shadwell, Dr. F. C. Martley (Dublin), Dr. H. A. Sansom, Dr. F. S. Palmer, Mr. J. Brindley James, Mr. W. Thomas (Birmingham), Dr. M. Greenwood, Dr. W. A. Dingle, Mr. F. S. Edwards, Dr. W. G. Dickinson, Dr. W. Knowsley Sibley, Dr. F. J. Allan, and Dr. J. B. Ball. Although the epidemic of influenza seems to have subsided the sickness claim lists of the society still show signs of its malevolence and the total disbursements under this head are somewhat beyond the expectation. On the other hand, the mortality experience of the society has been exceptionally good and there is every reason to hope that with the advent of warm summer weather the outgo of the society will as usual fall below the average and quickly make up for the heavy claim account of the winter and spring. The secretary is Mr. F. Addiscott, 33, Chancery-lane, London, W.C.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—An extraordinary general meeting of this society took place at its offices, No. 1, Upper Montague-street, Russell-square, London, W.C., on June 19th. The meeting was presided over by Dr. George Reid, medical officer of health to the Staffordshire county council and President of the society, who was heartily congratulated by the meeting on his return to his official duties after a long and serious illness. Resolutions were passed unanimously by which the membership of the society will be limited in future to two classes—viz., Fellows and Associates. It was also agreed that the Fellowship of the society shall be open to the following: Medical officers of health, acting or retired, whether in the British Isles and dependencies or elsewhere; medical officers (sanitary) of the navy and army (at home or abroad); all registered medical practitioners holding a Diploma in Sanitary Science, Public Health, or State Medicine, under Section 21 of the Medical Act, 1886; all medical inspectors of the Local Government Boards or other Government departments of England and Wales, Scotland, and Ireland; and medical officers appointed by education authorities. The confirmatory meeting will be held in the law courts at Cardiff on July 17th next.—The members of the Midland branch of the society met recently at the Foleshill Infectious Hospital, Coventry, by special invitation of the president, Dr. J. Orton. After inspecting the new hospital, which is regarded as a model one, the members held their business meeting and elected the following officers for the coming session:—President: Dr. R. Green (King's Norton). President-elect: Mr. F. H. May. Vice-Presidents: Professor A. Bostock Hill, Dr. J. H. H. Manley, Mr. H. May, and Dr. Orton. Council: Dr. T. Ridley Bailey, Dr. Sidney Barwise, Dr. G. Reid, Dr. P. Boobbyer, Dr. H. Malet, Dr. E. H. Snell, and Dr. J. Robertson. Honorary Treasurer: Professor Bostock Hill. Honorary Secretary: Dr. Snell. Representatives: Professor Bostock Hill and Dr. Manley. The most important item of business was the consideration of the extraordinary step taken by the Bilston urban district council in dismissing Dr. Ridley Bailey, medical officer of health of Bilston, from his position as medical superintendent of the fever hospital. Dr. Ridley Bailey is an ex-president of the South Staffordshire division of the British Medical Association and also an ex-president of the Incorporated Society of Medical Officers of Health. The fact that he has done excellent service as medical officer of health and as superintendent of the fever hospital at Bilston and that there have been no complaints as to the manner in which he has discharged his duties appears to have been admitted by those members of the council who supported this ill-advised motion, and the only reason brought forward in support of it was that the two appointments should not be held by one officer. The separation of these two offices is directly opposed to the best interests of public health and public convenience. The dismissal of a public officer in such circumstances and without clear reasons must have the effect of a vote of censure for which there is no possible justification, and from reports which are prevalent in the locality there appear to be urgent reasons in favour of an immediate public inquiry into the exact circumstances that have led up to the extraordinary step which was taken at the meeting. The following proposition was carried unanimously:—

> That this branch desires to express its indignation and astonishment at the extraordinary step taken by the urban district council of Bilston with regard to the appointment of their medical officer of health as superintendent of the fever hospital. The members of this branch feel that such a step casts a slur, not upon the medical officer of health, but upon the urban district of Bilston, and they feel confident that under the extraordinary circumstances of the case no medical man of any standing whatever in his profession would be found to accept the position thus made vacant.

PRIZE DISTRIBUTION AT ST. GEORGE'S HOSPITAL.—The prizes were presented to the successful students at St. George's Hospital on June 24th. The senior physician, Dr. H. D. Rolleston, having referred to the close connexion between the hospital and the school and to the interest which the governors had always taken in the medical education afforded at the hospital, called upon the Earl of Plymouth, who is one of the treasurers of the hospital, to distribute the prizes. Lord Plymouth, in congratulating the prize-winners, referred to the exceptional opportunities for gaining experience and tuition in their profession which are afforded to the medical students in the large hospitals of this country, and considered that such educational work was worthy of public support. The senior surgeon, Mr. C. T. Dent, proposed a vote of thanks to Lord Plymouth and expressed his misgivings as to the result if our hospitals ever came to look for their support to the rates. The vote having been duly seconded was passed unanimously.

THE ROYAL SANITARY INSTITUTE.—The twenty-fourth Congress of the Royal Sanitary Institute will be held at Cardiff from July 13th to 18th, under the Presidency of the Right Hon. the Earl of Plymouth. In the section devoted to sanitary science, which will be presided over by Dr. D. S. Davies, medical officer of health of Bristol, Dr. H. M. Richards, medical officer of health of Croydon, will introduce a discussion on Medical Inspection of School Children, and among the subjects to be dealt with at the eight special conferences held in connexion with the congress are Notification of Births, Regulations affecting the Transit and Sale of Food, and Meat and Milk in their Relation to Animal Tuberculosis. In connexion with the congress a health exhibition of apparatus and appliances relating to health and domestic use will be held as practical illustration of the application and carrying out of the principles and methods discussed at the meetings. Full particulars can be obtained from the Secretary, Royal Sanitary Institute, Margaret-street, London, W.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Milk Control (Scotland) Bill.

Mr. WATT has presented a Bill in the House of Commons "to amend and extend existing legislation relating to the milk-supplies of the rural and urban districts of Scotland." It was read a first time. The honourable Member has the support in this matter of Sir ANDREW TORRANCE, Mr. FINDLAY, Mr. MCCALLUM, Mr. BARNES, Mr. CHARLES PRICE, Mr. SUTHERLAND, and Mr. HALLEY STEWART.

Children and Alcohol.

An attempt was made by Mr. WEDGWOOD in the Standing Committee of the House of Commons on the Children's Bill on Tuesday, June 30th, to put a legislative check on the practice of giving gin and other intoxicating liquors to infants prevalent amongst certain sections of the poorer classes. The honourable Member moved the adoption of a new clause to carry out this purpose. It ran as follows: "If any person give, or cause to be given, to any child under the age of five any intoxicating liquor, or if the parent or guardian or the person having charge of such child permit such liquor to be given, except upon the order of a fully-qualified medical practitioner or for some urgent cause, he shall, on summary conviction, be liable to a fine not exceeding five pounds." The honourable Member found sympathy with the object he had in view and it was stated that there was a good deal of expert medical opinion behind the proposal. However, some members of the committee took the view that the proposal was going too far in advance of public opinion. The clause was ultimately rejected by 21 votes to 20.

Indecent Advertisements.

The Joint Committee of both Houses of Parliament which has been investigating the subject of lotteries and indecent advertisements has now concluded taking evidence. It is considering the terms of its report.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 24TH.

Escaped Lunatics.

Mr. REES asked the Secretary of State for the Home Department whether in view of the murders perpetrated, as was conjectured, by escaped lunatics who could not under the Lunacy Acts be retaken if they evaded recapture for 14 days, and in view of the condition of the law in this behalf under which a duly certified lunatic, dangerous to the community at large, became a free man if he could successfully secrete himself for a fortnight, he would consider the propriety of amending the statute concerned to the end that escaped lunatics might be lawfully recaptured and detained pending recertification.—Mr. GLADSTONE replied: The position is not quite that suggested in my honourable friend's question. It is true that 14 days is the limit of time within which a lunatic can be recaptured by the authorities or the servants of the institution from which he has escaped without a fresh order and certificate, but there is already full power under the provisions of Section 13 of the Lunacy Act, 1890, to deal with a lunatic not under proper care and control and other sections 15 and 16 of the same Act to deal with a lunatic wandering at large. Additional powers for dealing with urgent cases are given by Sections 20 and 21 of the same Act. In the opinion of the Lunacy Commissioners, with which I agree, there is no need for any amendment of the law such as is suggested by my honourable friend.

The Vaccination of Teachers.

Mr. RAMSAY MACDONALD asked the President of the Board of Education whether before issuing the new code he would reconsider the wording of the provision relating to the vaccination of teachers, with a view of making it clearer than it was that the Board of Education really meant that teachers having conscientious objections to being vaccinated should have their scruples respected by local education authorities.—Mr. RUNCIMAN replied: I have no power to require local education authorities to appoint or to refrain from rejecting any particular candidate, but certain alterations have been made in the Code with a view to removing the misconception which seems to have prevailed that the Board considers that the employment of unvaccinated teachers should be avoided.

THURSDAY, JUNE 25TH.

Prevention of Tuberculosis in Scotland.

Mr. GULLAND asked the Secretary for Scotland whether he was aware of the improved attitude of public opinion in Ireland on the subject of prevention of tuberculosis, due to the work of Lady Aberdeen; whether he was aware that public opinion in Scotland was maturing in favour of legislation; and whether he would introduce for Scotland a measure on the lines of the Tuberculosis Prevention (Ireland) Bill.—Mr. SINCLAIR replied: I am aware of the fact as stated and will keep the matter in view, but I may refer my honourable friend to the Local Government Board's circular of March 19th, 1906, and to the Public Health Amendment (Scotland) Act, 1907, from which it will be seen that every phase of pulmonary phthisis is already administratively provided for in Scotland by the existing public health legislation of that country. I may add that the Local Government Board are shortly to issue a second memorandum indicating the progress that has been made in the administrative control of the disease during the last two years, and the Board has already consented to the adoption of the Compulsory Notification Act by nine local authorities.

Condensed Skim Milk.

Answering Mr. FLYNN, Mr. MASTERMAN (Parliamentary Secretary to the Local Government Board) stated that he was not aware that there was a widespread system of scientific adulteration carried on in Holland and Belgium as regarded condensed skim milk. The article itself was very cheap. Samples were taken at the ports of entry by the customs officers with a view to preventing condensed skim milk from being introduced without being properly labelled, and the Local Government Board had lately prepared regulations under the Public Health (Regulations as to Food) Act of last session, which had already been issued in draft, and provided for unsound food of all kinds being examined and dealt with at the port of entry.

MONDAY, JUNE 29TH.

Telephones and Disease.

Mr. LONSDALE asked the Postmaster-General whether his attention had been called to a report by Dr. Francis J. Allan, medical officer of Westminster, with reference to the presence of disease germs in telephone mouth-pieces; and whether any steps were taken to disinfect telephones at public call offices under the control of the Post Office.—Mr. BUXTON replied: My attention has been called to the statement by Dr. Allan, which was not communicated to the Post Office but was published in THE LANCET. No trace of disease germs appears to have been found on five out of the six call-office telephones tested by Dr. Allan and the circumstances with regard to the sixth instrument, which is understood to be one in use at a railway station, appear to be quite exceptional. A special inquiry as regards the possible spread of infection by call-office telephones was made three years ago by the City medical officer of health, and a considerable number of call-office telephones were tested with the result that they were found to be free from disease germs. Steps are taken for regularly cleansing the telephones in public call-offices, and suggestions for an improved method of disinfection are under consideration. The whole matter is under careful consideration.

Mr. LONSDALE: Is the right honourable gentleman aware that certain eminent medical authorities are of opinion that in the absence of disinfection tuberculosis and diphtheria may be transmitted by the mouth-pieces?—Mr. BUXTON: They are disinfected. We are considering whether we cannot have a better method of disinfection. I shall be very glad to receive any communication from any medical officer who has views on the subject.

Milk Legislation.

Mr. EDWARD STRAUSS asked the President of the Local Government Board if he could inform the House whether his Milk Bill was yet framed, and when he would introduce it.—Mr. MASTERMAN (who answered on behalf of Mr. BURNS) said: The Bill is being prepared, but I cannot at present fix a date for its introduction.

The Portsmouth Dockyard Surgery.

Mr. T. F. RICHARDS asked the First Lord of the Admiralty how many cases of accident at the Portsmouth dockyard had been dealt with by the medical officers and by the surgery attendants respectively during the last six months; and what were the actual hours the medical officers were supposed to be in attendance at the dockyard surgery.—Mr. MCKENNA furnished the following written reply: During the past six months 5189 cases of accident have been treated at the dockyard surgery. The surgery attendants supply first-aid only. The medical officers are responsible for all treatment and there is therefore no separate list of cases treated by attendants. A medical officer is in actual attendance in the dockyard surgery from 9 A.M. till noon, and from 2 P.M. till 5 P.M. (bell-ringing). During the remainder of the 24 hours a medical officer is available at his official residence inside the dockyard.

TUESDAY, JUNE 30TH.

Medical Attendance for Postal Employees.

Mr. WILES asked the Postmaster-General whether, having regard to recent cases brought under his notice in which certificates of duly qualified medical practitioners, stating reason for sick absence of postal employees, had not been accepted by the department, he would state when he intended to put into operation the recommendations contained in the Hobhouse Committee's Report that free medical attendance should be provided for postal employees who resided in districts outside the four-mile radius.—Mr. BUXTON replied: I hope to bring into force the recommendation of the Select Committee respecting free medical attendance at home for persons living outside the visiting area of their medical officer on Oct. 1st next. It was not possible to bring this concession into force at the same time as the other concessions recommended by the committee on account of the complicated nature of the arrangements and the requisite notices to the medical men that were necessary for giving effect to it.

Telephones and Disease.

Sir EDWARD SASSOON asked the Postmaster-General whether he had read the report of Dr. Allan, the medical officer of health of the city of Westminster, relative to the liability of the users of telephones to contract tuberculosis; whether he was now convinced of the danger to public health to which his attention had already been drawn; and whether he would insist upon the adoption of the system of flat mouth-pieces, such as obtained in France with no disadvantage to the public service.—Mr. BUXTON answered: I have read the report of Dr. Allan, which was not communicated to the Post Office but was published in THE LANCET. Steps are taken for the regular cleansing of Post Office public telephones and suggestions for improved methods of disinfection are under consideration. Many appliances for attachment to telephones in order to prevent the danger of infection have been examined in connexion with the Post Office telephone system, but their use is open to many objections.—Washing with disinfectants is, in the opinion of medical experts, including Dr. Allan, the most effective safeguard.

The Statues on the British Medical Association Building.

Mr. SLOAN asked the Secretary of State for the Home Department whether his attention had been called to the character of some of the statues on the new building of the British Medical Association now in the course of erection in the Strand; and what action, if any, he intended to take in the matter.—Mr. GLADSTONE (by written answer) replied: I am not officially the arbiter either of taste or morals and I have no control over the decoration of private buildings unless they violate the law. Were it otherwise I should see no reason for interference.

Mr. HORNIMAN further asked the right honourable gentleman whether he proposed to call for a report from the Commissioner of Police on the statues, nude and otherwise, ornamenting or disfiguring the streets and open spaces, as well as public and other buildings in London, and as to their effect on public morals.—Mr. GLADSTONE answered: No, sir.

The Notification of Births Act.

Mr. ACLAND ALLEN asked the President of the Local Government Board whether his attention had been drawn to the fact that on April 9th a certified midwife was convicted under the Notification of Births Act for failing to notify the birth of a child, whilst no proceeding was taken against the father; and whether, in view of the fact that under the Act parents were responsible in the first instance for the notification of births, he would consider as to the advisability of issuing a circular to local authorities drawing their attention to the responsibility of parents in the matter.—Mr. MASTERMAN sent the following written reply in the name of Mr. BURNS: My attention has not been drawn to the particular case mentioned in the question. The Act, however, imposes the duty of notifying a birth alike on the father if he is actually residing in the house when the child is born, and on any person in attendance on the mother at the time of the birth or within six hours after it. It will be seen, therefore, that it is always the duty of the person in attendance to notify the birth although it is provided that a person shall not be liable to a penalty for failing to do so if he had reasonable grounds to believe that notice had been duly given by some other person. I issued a circular to the local authorities shortly after the passing of the Act in which I drew attention to the duties in this matter of the father and of the persons in attendance on the mother.

THE NEW IRISH UNIVERSITIES AND THE GENERAL MEDICAL COUNCIL.

The Standing Committee of the House of Commons which is charged with the consideration of the Irish Universities Bill on June 26th dealt with the clause which gives the new universities representation on the General Medical Council.

The clause as originally drafted ran as follows:—

"The governing body of each of the two new universities shall be entitled to choose one representative to be a Member of the General Council constituted by the Medical Acts; and section seven of the Medical Act, 1886, shall be read and have effect as if the two new universities were included therein in the place of the Royal University of Ireland."

Mr. BIRRELL moved as an amendment to insert the following provision in the clause: "Each of the two new universities is hereby empowered to hold qualifying examinations in medicine, surgery, and midwifery for the purpose of registration under the Medical Acts as if each of those universities had been a university in the United Kingdom legally qualified at the passing of the Medical Act, 1886, to grant diplomas in medicine and surgery, and the provisions of Part I. of that Act and any enactment amending the same shall be read and have effect accordingly."

The right honourable gentleman stated that the clause was to give a representative to each of the new universities on the General Medical Council. Representation had been given on the General Medical Council to the new universities in England such as the Universities of Liverpool and Leeds. Of course, it was right that the new universities should be empowered to hold qualifying examinations in medicine, surgery, and midwifery. It was necessary to give this power by express enactment and therefore he moved his amendment. The clause had been drawn on the same lines as clauses in the various Acts setting up new universities in England.

Mr. C. C. CRAIG thought that the Chief Secretary might have taken this opportunity of telling the committee what he meant to do with the Royal College of Surgeons in Ireland.

The CHAIRMAN (Mr. J. W. WILSON): Order, order. That cannot be discussed now.

Sir WILLIAM COLLINS said that the General Medical Council was already an unwieldy body, and now it was proposed that two members should be added to it to take the place of one. The Chief Secretary to the Lord Lieutenant was doubtless aware that the diploma of public health, or as it was sometimes called sanitary science, was now given by most of the bodies giving medical qualifications. He did not know whether the wording of the amendment which concerned medicine, surgery, and midwifery would include the granting of diplomas in public health. Certainly the new bodies in Ireland ought to be brought into line with others and he hoped that he would receive an assurance that they should not be precluded from granting these diplomas.

Mr. BIRRELL promised to look into the point with reference to diplomas in public health. He did not think it would be right that the new universities should be excluded from granting them.

The amendment proposed by Mr. BIRRELL was then inserted in the clause without a division.

On the question that the clause as amended should stand part of the Bill,

Mr. MOORE expressed the fear that the additional representation which the clause gave would disturb the balance of the General Medical Council. It seemed to him that by a side wind the committee was altering the constitution of that body without consulting it as to the right way to proceed. It seemed to him that the committee was asked to assume without inquiry that the medical qualifications of these two new universities were to be up to the standard of the General Medical Council. The Act of Parliament allowed the General Medical Council to make that inquiry for itself.

The clause was ultimately agreed to without a division.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

CAMERON, JOHN, M.D.Edin., D.Sc.St.And., has been appointed Lecturer on Anatomy in the Medical School of the Middlesex Hospital.

DOWLING, EDWARD ALFRED GRIFFITHS, L.R.C.P.Lond., M.R.C.S., L.D.S.Eng., has been appointed Honorary Dental Surgeon to the Bristol General Hospital.

GILBERT, WILLIAM, M.B., Ch.B.Glasg., has been appointed Senior House Surgeon at the Provincial Hospital, Port Elizabeth.

GRAHAM, CECIL I., F.R.C.S.Eng., has been appointed Assistant Surgeon for Diseases of the Ear, Nose, and Throat to St. Mary's Hospital.

HEATH, PHILIP MAYNARD, M.S.Lond., F.R.C.S.Eng., has been appointed Assistant Surgeon to the Metropolitan Hospital.

ILES, ARTHUR ERNEST, L.R.C.P., M.R.C.S., has been appointed House Surgeon at the Bristol General Hospital.

MAYNARD, E., F.R.C.S.Eng., has been appointed Senior House Surgeon at the Bristol General Hospital.

RUDGE, FREDERICK HENRY, L.R.C.P.Lond., M.R.C.S., has been appointed House Physician at the Bristol Royal Infirmary.

SHORT, L. J., M.B., B.S.Lond., has been appointed Assistant House Physician at the Bristol General Hospital.

TOMLINSON, P. S., L.R.C.P.Lond., M.R.C.S., has been appointed Casualty Officer at the Bristol General Hospital.

WALES, E. G., M.B.Cantab., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Downham Market District of the county of Norfolk.

WALLACE, A. F., M.B., Ch.B.Aberd., has been appointed House Surgeon to the Johannesburg Hospital.

WILLCOX, JOSEPH WILLIAM JAMES, M.B., B.S.Lond., L.R.C.P.Lond., M.R.C.S., has been appointed House Physician at the Bristol General Hospital.

WILSON, J., L.R.C.P.&S.Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Dumbarton District of the county of Dumbarton.

YOUNG, ROBERT ARTHUR, M.D., B.Sc.Lond., F.R.C.P., has been appointed Honorary General Physician to the City of London Lying-in Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYR COUNTY HOSPITAL.—Resident House Surgeon. Salary £70 per annum, with board and residence.

BERMONDSEY INFIRMARY, Lower-road, Rotherhithe, S.E.—First Assistant Medical Officer, unmarried. Salary £170 per annum, with rations, washing, apartments, and attendance.

BIRMINGHAM, UNIVERSITY OF.—Walter Myers Travelling Studentship. Value £150 for one year.

BRADFORD UNION HOSPITAL AND WORKHOUSE.—Assistant Resident Medical Officer. Salary £100 per annum, with rations, apartments, and washing.

BRENTWOOD, ESSEX COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary £150 per annum, with board, attendance, lodging, and washing.

BRIDGWATER HOSPITAL.—House Surgeon, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

BRITISH MEDICAL ASSOCIATION.—Assistant Medical Secretary. Salary £500 per annum.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

CANCER HOSPITAL, Fulham-road, London, S.W.—Director of Cancer Research and Pathological Department. Salary £600 per annum. Also Assistant Anæsthetist. Salary 25 guineas per annum.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, board, attendance, &c.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Honorary Assistant Anæsthetist.

CHESTER, CITY OF.—Assistant Medical Officer of Health. Salary £250 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, and washing.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Resident Medical Officer for four months, renewable. Salary at rate of £50 per annum, with board, lodging, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with rooms, board, washing, and attendance.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician. Salary £25, with board, residence, laundry, &c.

EDINBURGH, UNIVERSITY OF.—Lectureship in Diseases of Tropical Climates. Salary £300 per annum.

ENNISKILLEN, FERMANAGH COUNTY HOSPITAL.—House Surgeon. Salary £72 per annum, with board, apartments, and washing.

FROME UNION.—Medical Officer. Salary £90 per annum and fees.

HAMPSTEAD GENERAL HOSPITAL.—Gynæcologists, Surgeon to the Throat and Ear Department, and Physician to the Skin Department.

HEREFORDSHIRE GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, and washing.

HERTFORD GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

HESTON AND ISLEWORTH URBAN DISTRICT COUNCIL.—Assistant Medical Officer of Health. Salary at rate of £200 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25. Also Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Surgeon to Out-patients. Also Anæsthetist.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—House Surgeon. Salary £65.

LANCASTER, ROYAL LANCASTER INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, attendance, and washing.

LEEDS MATERNITY HOSPITAL.—Honorary Medical Officer.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. Salary £100 per annum, with board and lodging. Also Two Honorary Assistant Dental Surgeons.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

LONDON HOSPITAL.—Clinical Pathologist. Salary £350 per annum.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon, non-resident, for six months. Salary at rate of £50 per annum. Also Anæsthetist.

MANCHESTER, UNIVERSITY OF.—Senior Demonstrator in Physiology. Salary £150, rising to £250 per annum.

MIDDLESEX HOSPITAL W.—Emden and Hollins Scholarships in the Cancer Research Laboratories, value £100 and £105 respectively.

MILE END OLD TOWN INFIRMARY AND WORKHOUSE, Bancroft-road, E.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL, Sunderland.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Junior Resident Medical Officer. Salary £50 per annum, with board, lodging, &c.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Bacteriology. Salary £250 per annum.

NORWICH, CITY OF.—Assistant Medical Officer of Health and Bacteriologist. Salary £130 per annum and allowances.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ORKNEY, PAPA WESTRAY PARISH COUNCIL.—Lady Medical Officer and Public Vaccinator. Salary £65 per annum, with fees, house, and garden.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Obstetric Assistant (female). Salary £50, with board, lodging, and washing. Also Anæsthetist.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with board, lodging, and washing.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London, E.C.—Honorary Assistant Surgeon.

ST. MARY'S HOSPITAL, London, W.—Assistant Anæsthetist, also Casualty House Surgeon, both for six months. Salary in each case £100 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £65 per annum, with board and residence. Also Assistant House Physician. Salary £60 per annum, with board and residence.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £80 per annum, with board and apartments.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Salary £30, with board, lodging, and laundry. Also Surgeon to Out-patients.

WARWICK, HATTON ASYLUM.—Third Assistant Medical Officer. Salary £135, with board, lodging, attendance, and laundry.

WEST HAM UNION INFIRMARY. Whipps Cross-road, Leytonstone, N.E.—Second Assistant Medical Officer. Salary £120 per annum, with allowances.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Surgeon. Also Surgical Registrar. Also Assistant Officer in Charge of the X-Ray Department.

WEST SUFFOLK COUNTY EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £250 per annum, with travelling expenses.

WEST SUSSEX AND CHICHESTER JOINT EDUCATION COMMITTEE.—Medical Inspector of Schools. Salary £350 per annum and expenses.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Physician. Also Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

WHITCHURCH, NEAR CARDIFF, CITY MENTAL HOSPITAL.—Locum Tenens for two months. £4 4s. weekly and all found.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with board and lodging.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the *Factory and Workshop* Act at King's Norton, in the county of Worcester; at Bexhill, in the county of Sussex; at Fleet, in the county of Hants; at Attleborough, in the county of Norfolk; and at Dreghorn, in the county of Ayr.

Births, Marriages, and Deaths.

BIRTHS.

CARROLL.—On June 26th, at Redlynch, Salisbury, the wife of Lieutenant-Colonel E. R. W. Carroll, I.M.S., of a son.

HALL.—On June 26th, at Compton-terrace, Highbury, N., the wife of C. Beauchamp Hall, F.R.C.S. Eng., of a daughter.

NUTTALL.—On June 25th, at Manchester-road, Bury, Lancashire, the wife of A. Peel Nuttall, M.D. Lond., of a daughter.

PEARSON.—On June 28th, at Manor-place, Edinburgh, the wife of Charles Mowbray Pearson, M.B., F.R.C.P.E., of a son.

RAIT.—On June 27th, at "Woodstock," Lyndhurst-gardens, Hampstead, the wife of Captain J. W. F. Rait, I.M.S., of a son.

MARRIAGES.

TICEHURST—TAYLOR.—On June 27th, at St. James's Church, Weybridge, Gerald Augustus Ticehurst, M.A., M.B. Cantab., to Henrietta Elizabeth, second daughter of William Bramley Taylor, J.P., M.R.C.S.

WRIGHT—SOWELS.—On June 29th, at St. Cuthbert's Church, Thetford, by the Rev. R. C. S. Sweeting, Vicar of St. Cuthbert's, assisted by the Rev. E. W. Hardy, Vicar of St. Mary's, Thetford, Thomas James Wright, F.R.C.S.E., of 50, Prince of Wales-road, Norwich, to Constance Margery, third daughter of William Edward Sowels, Esq., of "The Rookery," Thetford, Norfolk.

DEATHS.

COTTON.—On June 25th, of pneumonia, Holland John Cotton, M.D., aged 57 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE ALEXANDRA ORPHANAGE.

Sir Horace B. Marshall, chairman and treasurer of the Orphan Working School and Alexandra Orphanage, of which their Majesties the King and Queen are patrons and the Prince of Wales president, has sent us a pretty little illustrated book entitled "The Foster Mother," written by Miss Hulda Friederichs to commemorate the 150th year of the Orphan Working School at Maitland Park. The school was founded on May 10th, 1758, and is the oldest orphanage for both boys and girls in the country. Miss Friederichs describes in language full of tender feeling the work of the orphanage and gives brief details of the pathetic cases which receive the ministrations of the institution. The Orphan Working School gives a home to its dependents from babyhood, and perhaps no charity can be more deserving of support than one which cares for those children who stand helpless on the threshold of life, when it is of the utmost importance that their talents and instincts should be rightly directed. The institution is in need of funds, and sympathisers with its work should certainly obtain a copy of "The Foster Mother" either from the publishers, Messrs. Horace Marshall and Son, Temple-avenue, London, E.C., or from the offices of the orphanage, 73, Cheapside, E.C.

THE USE AND ABUSE OF DISTRICT NURSES.

To the Editor of THE LANCET.

SIR,—Your correspondent hardly makes out a case for the intervention of the General Medical Council for the purpose of limiting the sphere of action of district nurses. His letter is not altogether clear, but he seems to complain:—

1. That the nurse is "called in" in place of the medical man. She is called in in place of the "wise woman," and as she has had some training she is far more likely to advise rational treatment and the employment of a qualified man than is the "wise woman," who feels no responsibility and does not know enough to appreciate her own ignorance.
2. That she attends midwifery. The Midwives Act has established the position of the midwife, and the district midwife is under better control and does no more than other midwives.
3. That she acts as assistant sometimes to the club medical officer. The objection to the unqualified assistant was that he pretended to be a qualified man. No one supposes that the district nurse is a qualified medical man. If she takes some of the work off the poor underpaid club officer I fail to see any objection. In all kinds of practice a nurse is a great and legitimate help to a medical practitioner.
4. That she is underpaid. No doubt she is, but I don't think the General Medical Council can, or will, interfere!
5. That district visitors collect for the nurse on the understanding that she will save medical fees. If they do, they receive money under false pretences! It is the "wise woman" and not the trained nurse who boldly treats serious diseases. The common complaint against district nurses is that they are too ready to send for the medical man.

"Senex" does not, I am glad to see, question the use of the district nurse. The good that she does in bringing neglected children under skilled and rational treatment is immense, while her attention to the heads of school children alone justifies her existence.

I am, Sir, yours faithfully,

O. CLAYTON-JONES, M.B. Oxon.,
Hon. Sec. Silverton and Bickleigh Nursing Association.

June 29th, 1908.

TREATMENT BY CORRESPONDENCE.

THE following extract from a cheap newspaper has been forwarded to us:—

> THE DOCTOR AT HOME.
>
> To make the *Sunday Circle* a real home and family journal, we have arranged for a London M.D.—late of St. Bartholomew's Hospital, and M.B. of Cambridge University—to answer medical and health questions in this column. We know the vast interest that readers take in matters of health and hygiene, and we are sure this column will be much appreciated. All questions of general interest will be answered in this column free; but replies cannot appear in this column under three weeks. We have arranged, however, with our M.D. to send immediate replies, with prescriptions, if necessary, to readers who send a postal order for one shilling, and a stamped addressed envelope. Such cases will not be mentioned in this column. Address all inquiries to "Medical," *Sunday Circle* Office, 17, New Bridge-street, London, E.C.

The Cambridge Bachelor of Medicine who is also a London Doctor of Medicine is behaving unprofessionally. He is picking up shillings, under the anonymous position of the *Sunday Circle's* M.D., which he should know are not rightly earned, inasmuch as such treatment by correspondence can never be safe or effective.

oyal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. rmond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham)phthalmic, 2.30 P.M.), West London (2.30 P.M.).

RSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's 3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. eorge's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex 1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West ondon (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), letropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's 1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, 3t. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, .30 P.M.), West London (2.30 P.M.).

)AY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. homas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing ross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's 2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. orthern Central (2.30 P.M.), West London (2.30 P.M.), London hroat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, olden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square 2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt.)rmond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

URDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex 1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), haring Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), hroat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt.)rmond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the ral London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

: is most important that communications relating to the orial business of THE LANCET should be addressed *usively* "TO THE EDITOR," and not in any case to any tleman who may be supposed to be connected with the torial staff. It is urgently necessary that attention should given to this notice.

s especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

ectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

etters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

Ve cannot prescribe or recommend practitioners.

ocal papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

etters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1908, which was completed with the issue of June 27th, are given in this issue of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1908 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 2nd, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 26	30·34	E.	...	131	79	53	57	65	Fine
,, 27	30·38	E.	...	102	68	55	58	61	Fine
,, 28	30·30	E.	...	120	76	56	57	60	Cloudy
,, 29	30·27	E.	...	123	79	56	58	62	Fine
,, 30	30·23	E.	...	122	79	54	56	60	Fine
July 1	30·29	E.	...	127	82	57	61	67	Fine
,, 2	30·31	E.	...	127	79	57	60	66	Fine

During the week marked copies of the following newspapers have been received:—*Hanley Sentinel, Wolverhampton Evening News, Bradford Observer, Brighton Argus, Daily Express, Cardiff Echo, Dublin Mail, Pall Mall Gazette, Leeds Evening Post, Glasgow Record, Glasgow Herald, Liverpool Daily Post, Blackburn Telegraph, The Spectator, Leeds and Yorkshire Mercury, Newcastle Daily Chronicle, Morning Leader, Glasgow Evening News, Bayswater Chronicle, Lloyd's Weekly News, Warrington Observer, North-Western Daily Mail, &c.*

Communications, Letters, &c., have been received from—

A.—Sir W. H. Allchin, Lond.; Mr. J. Elfick Adler, Lond.; Messrs Allen and Hanburys, Lond.; Mr. J. Astier, Asnières; Aberystwyth Infirmary, Secretary of; Argyll Motors, Lond.; Messrs. Abel and Imray, Lond.; Ardath Tobacco Co., Lond., Secretary of; A. T. S.; Messrs. C. Ash, Sons, and Co., Lond.; Anglo-American Pharmaceutical Co., Croydon; "Ars Vivendi" System Propaganda Committee, Lond., Secretary of; Mr. E. S. Atkinson, Liverpool.

B.—Mr. J. A. Barth, Liepzig; Mr. T. Bell, Lancaster; Messrs. Burroughs, Wellcome, and Co., Lond.; Brisbane Department of Agriculture, Secretary of; Mr. W. Bryce, Edinburgh; Barnsley Hall Asylum, Bromsgrove, Medical Superintendent of; Messrs. Baillière, Tindall, and Cox, Lond.; Mr. G. Burnside Buchanan, Glasgow; The Birmingham and District Trades and Property Association, Secretary of; Mr. R. W. Bruce, Lond.; Dr. F. G. Bushnell, Brighton; Messrs. Bloud and Co., Paris; British Medical Association, Lond., General Secretary of; *Birmingham Daily Post*, Proprietors of; Messrs. Blundell and Rigby, Lond.

C.—Mr. John F. Craig, Belfast; Messrs. Chancellor and Co., Lond.; Messrs. A. H. Cox and Co., Brighton; Société des Eaux de Contrexéville, l'Administrateur de la; Central London Throat and Ear Hospital, Dean of; Major-General Lord Cheylesmore, Lond.; Colonial Office, Lond.; *The Chemist and Druggist*, Lond., The Editor of; Dr. Hubert Chitty, Lond.; Cheltenham General Hospital, Secretary of; Messrs. Callard and Bowser, Lond.; Cardiff City Mental Hospital, Whitchurch, Clerk to the; Coal Smoke Abatement Society, Lond.; Coventry and Warwickshire Hospital, Coventry, Secretary of; *The Councils' Journal*, Lond.

D.—Dr. C. M. Douglas, Dunmow; Dr. J. Lawson Dick, Lond.; Derbyshire Royal Infirmary, Derby, Secretary of; Dold (Jacob) Packing Co., Buffalo, N.Y.; Dr. A. Duncan, Lond.; Messrs. A. Driver and Sons, Chelmsford.

E.—Mr. H. Elliot-Blake, Bognor; Mr. M. D. Eder, Lond.; East Suffolk and Ipswich Hospital, Ipswich, Secretary of; Messrs. Evans, Sons, Lescher, and Webb, Liverpool.

F.—The Fine Art Society, Lond.; Fermanagh County Hospital, Enniskillen, Secretary of; Farringdon Engineering Co., Lond.; Messrs. Flint and Durbridge, Lond.; Frome Union, Clerk to the; Messrs. Fairchild Bros. and Foster, Lond.; Messrs. Harvey Frost and Co., Lond.

G.—Mr. H. M. W. Gray, Aberdeen; Dr. Paul Guillon, Paris; Mr. A. Perceval Graves, jun., Lond.; Gt. Eastern Railway Co., Lond., Continental Traffic Manager of; Messrs. Glasier and Sons, Lond.; Grimsby and District Hospital, Secretary of; Mrs. Gihon, Harrogate; Gt. Northern Railway Co., Lond., Chief Passenger Agent of; Messrs. Greenberg and Co., Lond.; Messrs. R. W. Greeff and Co., Lond.; Guy's Hospital, Lond., Governors and Medical Staff of.

H.—Rev. C. F. Harford, Lond.; Dr. W. J. Howarth, Maidstone; Dr. W. E. Heilborn, Bradford; Professor H. J. Hutchens, Corbridge; Professor F. Hobday, Lond.; Mr. Jonathan Hutchinson, Lond.; Dr. Beatson Hird, Birmingham; Heston, &c., Urban District Council, Clerk to the; Messrs. F. A. Hardy and Co., Lond.; Herefordshire General Hospital, Hereford, Secretary of; Messrs. C. J. Hewlett and Son, Lond.; Mr. H. Hancock Lond.; Mr. Otto Holst, Eastbourne; Mr. Marcel Haas, Châlons-sur-Marne.

I.—Incorporated Society of Medical Officers of Health, Midland Branch, Handsworth, Hon. Secretary of; *Irish Times*, Dublin; Hon. Mrs. S. Ives, Halstead.

J.—Messrs. Jones Bros, Bristol.

K.—Messrs. J. Keele and Co., Lond.; Messrs. S. Kutnow and Co., Lond.: Professor Dr. A. Keller, Berlin; Dr. M. P. Kerrawalla, Lond.; Messrs. R. A. Knight and Co., Lond.; Mr. E. Knight, Lond.; Dr. E. Klein, Lond.

L.—Mr. H. K. Lewis, Lond.; Dr. R. J. Lytle, Southsea; Leeds Public Dispensary, Secretary of; Mr. W. W. Linney, Croydon; Livingstone College, Leyton, Principal of; Lynn Thomas and Skyrme Fund, Cardiff, Hon. Secretary of; Dr. H. A. Lediard, Carlisle; Dr. A. H. N. Lewers, Lond.; Mr. H. H. Lacy, Warwick; Mr. T. Laffan, Cashel.

M.—Mr. E. P. Minett, Lond., Messrs. Macmillan and Co., Lond.; Mr. C. Matthews, Lond.; Monkwearmouth, &c., Hospital, Sunderland, Secretary of; Dr. J. A. MacDougall, Bude; Medico-Psychological Association of Great Britain and Ireland, Lond., Hon. Secretary of; Mr. K. V. G. Menon, Malabar; Mr. W. Martindale, Lond.; Manchester Royal Infirmary, Secretary of.

N.—Dr. J. Niven, Manchester; Messrs. Newton and Co., Lond.; Mr. G. A. Nussbaum, Lond.: Norwich Corporation, Clerk to the; Nightingale Fund, Lond., Secretary of; North of England Obstetrical and Gynæcological Society, Hon. General Secretary of; Mr. H. Needes, Lond.; Mr. J. C. Needes, Lond.

P.—Dr. C. Pascheff, Sofia; Messrs. Parkins and Gotto, Lond.; Messrs. Peacock and Hadley, Lond.

R.—Dr. J. W. Rob, Weybridge; Messrs. E. J. Reid and Co., Lond.; Mr. R. Redpath, Newcastle-on-Tyne; Rebman, Ltd., Lond.; Royal Society of Medicine, Lond., Secretary of; Registered Nurses' Society, Lond., Secretary of; Royal College of Surgeons of England, Lond., Conservator of Museum of; Royal Sanitary Institute, Lond., Secretary of; Mr. J. Mill Renton, Glasgow.

S.—Dr. J. Sellei, Budapest; St. Andrew's Hospital, Northampton, Clerk to the; Stepney Spare Motor Wheel Co., Llanelly; Dr. A. E. Stevens, Lond.; Dr. R. S. Srivastava, Almorah; Dr. J. Selkirk, Boston Spa; Star Engineering Co., Wolverhampton, Secretary of; *South Wales Argus*, Newport, Manager of; Mr. H. S. Stannus, Lond.; Messrs. Staples and Co., Lond.; Messrs. Sisley's Lond.; Major C. A. Stone, R.A.M.C., Luksan, Jalpaiguri; Mr. J. Smith, Lond.; Mr. T. J. Stafford, Dublin; St. George's Hospital Medical School, Lond., Dean of; The Sanitary Assurance Association, Lond.; "Student"; S. D. S.; Messrs. G. Street and Co., Lond.; Mr. G. C. Steinicke, Munich; *Sheffield Daily Telegraph*, Proprietors of; Messrs. W. H. Smith and Son, Manchester; Mr. A. Stiebler, Lond.

T.—Mr. J. Thin, Edinburgh; Training College for Teachers of the Deaf on the Pure Oral System, Lond., Director of; Taunton and Somerset Hospital, Secretary of; Mr. F. C. Turner Lond.; Dr. W. E. Taylor, Atlanta, U.S.A.

U.—University Tutorial Press, Cambridge, Schools Secretary of.

V.—Mr. H. Vaughan, Lond.; Messrs. J. W. Vickers and Co., Lond.

W.—Mr. W. A. Wharram, Leeds; Dr. J. R. Woodcock, Hereford; Sir W. Whitla, Belfast; West Bromwich District Hospital Secretary of; Western Valleys Medical Association, Newbridge (Mon.), Hon. Secretary of; Whitehaven, &c., Infirmary, Secretary of; West Sussex Education Committee, Horsham, Secretary of; Weston-super-Mare Hospital, Clerk to the; Dr. A. Marius Wilson, Cape Town; Mr. William Woodward, Liverpool.

Y.—Mr. W. H. Young, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. B. Anningson, Cambridge: Apollinaris Co., Lond., Secretary of; Mr. E. Arnold, Lond.; Lieut.-Col. A. Ambrose, A.M.S., Devizes; Messrs. Armour and Co., Lond., A. G. E.

B.—Dr. C. Ballabene, Stettin; Messrs. Boulton and Paul, Norwich; Messrs. Baker Bros., Lond.; Berkshire Education Committee, Reading, Secretary of: B. J. P., Lond.; Dr. A. Birmingham, Ballinrobe; Messrs. Brown and Pank, Lond; Dr. A. H. Brehaut, Guernsey; Mr. F. A. Brockhaus, Lond.; Mr. W. J. Best, Louth; Burntwood Asylum, Lichfield, Secretary of.

C.—Messrs. Carling and Co., Lond.; Messrs. E. Cook and Co., Lond.; Cunard SS. Co., Liverpool, Manager of; C. M.; C. C.: Messrs. Chandler, Ingram, and Bell, Toronto; C. G.; Messrs. J. W. Cooke and Co., Lond.; Carmarthenshire Infirmary, Carmarthen, Secretary of.

D.—Durham County Council Education Department, Cashier to the; Doctor, Boscombe; Dr. W. T. Dougal, Pittenweem; Mr. H. A. Dodd, Stockport; Messrs. Davy, Hill, and Hodgkinson, Lond.

E.—E. R.; E. P.; E. W. T.

F.—Messrs. Flynn and Co., Cork; Messrs. Findlater, Mackie, Todd, and Co., Lond.; Dr. J. Fawcett, Lond.; Mr. F. T. Fagge, Llanfairfechan; Dr. P. Ferreyrolles, La Bourboule.

G.—Dr. E. A. Gates, Florence; Mr. Green, Lond.

H.—Dr. E. R. Hunt, Brighton; Mr. P. E. Hoyland, Rotherham; Dr. R. S. Hindmarch, Gateshead; Colonel T. Howard, Hythe; Messrs. Hooper and Co., Lond.: Dr. P. Hatton, Paris; Hitchin Union, Clerk to the; Mr. T. H. Hewitt, Lond.; Dr. B. Holländer, Lond.; H. J. V.; H. S.; Dr. D. Hethcote, Barnard Castle.

J.—Mr. T. J. Jenkins, Henllan; J. A.; J. P. T.; J. A. B. T.; Jamkhandi, India, Chief Medical Officer of; Jetter and Scheerer Co., Lond., Secretary of; J. B. B.; Mr. Y. M. Jones-Humphreys, Cemmaes.

K.—King Edward VII. Sanatorium, Midhurst, Secretary of; Kathiawar, India, Agency Surgeon of; Dr. H. Cameron Kidd, Bromsgrove.

L.—Dr. S. O. Lawrence, Lond.; Lancashire County Asylum, Winwick, Clerk to the; London Association of Nurses, Superintendent of; Liverpool School of Tropical Medicine, Secretary of; Leicester Infirmary, Clerk to the; Leeds Maternity Hospital, Secretary of; Locum, Llandudno.

M.—Mr. J. D. Malcolm, Lond.; Dr. W. C. MacFetridge, Clonakilty: Maltine Manufacturing Co., Lond.; Mr. H. Morris, Lond.: Dr. C. R. P. Mitchell, Malvern; Mr. J. F. Mackenzie, Edinburgh; Messrs. C. Mitchell and Co., Lond.; Maldon Sanatorium, Medical Superintendent of; Mr. J. P. Milton, Yelverton; Manchester Medical Agency, Secretary of; Mr. D. Maguire, Templeboy; Mr. J. E. May, Lond.; Mr. G. F. W. Meadows, Otley; Messrs. McKesson and Robbins, New York.

N.—Dr. F. V. Nanka-Bruce, Accra; Messrs. Neyroud and Son, Lond.

O.—Odol Chemical Works, Lond.

P.—Mr. A. K. Pal, Behala; Messrs. Pratt and Co., Manchester; Pasteur Vaccine Co., Paris, Secretary of.

R.—Dr. R. D. Rudolf, Toronto; Royal Mineral Water Hospital, Bath, Registrar of: Messrs. Reuters, Lond.; Mr. J. M. Randle, Ruan Minor.

S.—Dr. H. G. Stacey, Leeds; Mr. W. E. Sowels, Thetford; Salford Corporation, Treasurer to the; Mr. H. P. Scott, Lond.; Dr. T. E. Sandall, Alford; Dr. F. E. Shipway, Lond.; Scholastic, Clerical, &c., Association, Lond., Accountant of; Sanitas Electrical Co., Lond., Secretary of; Mr. G. O. Stamper, Pembroke Dock; Mr. W. H. Soady, Dublin; Messrs. Spiers and Pond, Lond.

T.—Mr. H. G. Toombs, Lond.; Teignmouth Hospital, Secretary of; T. J. C.; T. G.; Messrs. Turner and McCandlish, Lond; Rev. G. Taylor, Norwich; Dr. J. L. Timmins, Lond.

W.—Mr. E. H. Worth, Lond.; Messrs. Wyleys, Coventry; W. L.; Mr. H. G. Webb, Workington; Mr. J. Williams, Bradford; Dr. J. Wotherspoon, Lond.: Dr. R. J. Willan, Newcastle-on-Tyne; Mr. J. Ward, Lond.; Messrs. F. Williams and Co., Lond.; West Riding (Yorks) County Council Education Committee, Wakefield, Treasurer of; W. O. G.; Dr. W. H. O. Woods, Swansea; Messrs. H. Wilson and Son, Lond.; W. E. G.

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto	0 4 6
	Every additional Line	0 0 6

Situations wanted: First 30 words, 2*s*. 6*d*.; per additional 8 words, 6*d*.

Quarter Page, £1 10*s*. Half a Page, £2 15*s*. An Entire Page, £5 5*s*.

The Croonian Lectures

ON

INBORN ERRORS OF METABOLISM.

Delivered before the Royal College of Physicians of London on June 18th, 23rd, 25th, and 30th, 1908,

By ARCHIBALD E. GARROD, M.A., M.D. Oxon., F.R.C.P. Lond.,

ASSISTANT PHYSICIAN TO, AND LECTURER ON CHEMICAL PATHOLOGY AT, ST. BARTHOLOMEW'S HOSPITAL; SENIOR PHYSICIAN, HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

LECTURE II.[1]

Delivered on June 23rd.

ALKAPTONURIA.

MR. PRESIDENT AND FELLOWS,—Of inborn errors of metabolism, alkaptonuria is that of which we know most, and from the study of which most has been learnt. In itself it is a trifling matter, inconvenient rather than harmful, which only attracts attention because an infant stains its clothing, or because an adult fails to effect an insurance of his life. The medical man merely needs to be aware of its existence and to be acquainted with the methods for its recognition in order that he may not mistake it for troubles of graver kinds; but for the chemical physiologist and pathologist it is one of the most interesting of metabolic abnormalities. Not only has the study of alkaptonuria thrown much light upon the fate of the aromatic fractions of the proteins of the food and tissues but has also helped materially to reveal a fact of far wider significance—namely, that for each protein fraction, or group of allied fractions, a special catabolic path has been evolved.

When freshly passed the urine of an alkaptonuric seldom exhibits any abnormality of tint, but it quickly begins to darken in contact with the air. The darkening, which is associated with absorption of oxygen, commences at the free surface of the liquid and passes through various shades of brown to actual blackness. Alkalinity of reaction greatly hastens the change. Linen and woollen fabrics moistened with the urine become stained as by a photographic developer. On heating the urine with Fehling's solution a deep brown colour develops and copious reduction occurs, but the browning of the liquid in which the orange precipitate is suspended gives to the test a quite peculiar appearance, which should be recognised by anyone who has once seen it. An ammoniacal solution of silver nitrate is rapidly reduced, even in the cold. On heating the urine with Nylander's solution, a darkening is produced by the alkaline reagent, but no reduction of bismuth is brought about. With Millon's reagent a yellow precipitate is formed. The most striking reaction is observed when a dilute solution of ferric chloride is allowed to fall into the urine drop by drop. The fall of each drop is followed by the appearance of a deep blue colour, which lasts but for a moment, and the phenomenon is repeated until oxidation is completed. With yeast no fermentation occurs and the polarised ray is not rotated either to the right or left.

Our knowledge of alkaptonuria is dated from the year 1858, in which year Bödeker[2] detected, in the urine of a patient with glycosuria, a second reducing substance, not a sugar, to which, on account of its behaviour towards alkalies, he assigned the name of alkapton, a bilingual word derived from alkali and κάπτειν. However, indications of the anomaly may be detected in much earlier medical writings. Thus there can be no doubt that the case of an infant who passed black urine, described by Alexander Marcet[3] in 1823, was of this nature. It is true that Marcet knew nothing of the reducing properties of the urine, but he describes accurately its darkening in colour on standing, the staining of napkins, and the effect of the addition of an alkali; and mentions that the condition was present from the earliest days of the child's life. Until the early years of the nineteenth century no distinction was drawn in medical writings between urines which were black when passed and such as darkened on exposure to air, but it is difficult to suggest any other diagnosis than that of alkaptonuria for some cases referred to in works of the sixteenth and seventeenth centuries, such as that mentioned by G. A. Scribonius[4] (in 1584) of a schoolboy who, although he enjoyed good health, continuously excreted black urine, and that cited by Schenck[5] (in 1609) of a monk who exhibited a similar peculiarity and stated that he had done so all his life. The most interesting record of this kind is to be found in the work of Zacutus Lusitanus,[6] published in 1649. The patient was a boy who passed black urine and who, at the age of 14 years, was submitted to a drastic course of treatment which had for its aim the subduing of the fiery heat of his viscera, which was supposed to bring about the condition in question by charring and blackening his bile. Among the measures prescribed were bleedings, purgation, baths, a cold and watery diet, and drugs galore. None of these had any obvious effect, and eventually the patient, who tired of the futile and superfluous therapy, resolved to let things take their natural course. None of the predicted evils ensued, he married, begat a large family, and lived a long and healthy life, always passing urine black as ink.

That alkaptonuria is a very rare anomaly admits of no question, and many medical men of large experience have never met with it. Of its occurrence in several members of a family and of its mode of incidence I have already spoken at sufficient length in my first lecture. In the great majority of instances it is present from birth and persists throughout life, but has been said to have been developed as a temporary morbid sign in a very few exceptional cases. It gives rise to no symptoms save occasional dysuria with undue frequency of micturition, but some few alkaptonurics have developed in later life that peculiar tissue staining which Virchow[7] first described and to which he gave the name of ochronosis.

The essential feature of ochronosis is the staining of the cartilaginous structures of an inky blackness, but surface or sub-surface pigmentation is sometimes present and has rendered possible the recognition of the condition in living subjects. The tint of the blackened aural cartilages may show through the skin and give a slaty-blue colour to the hollows of the ears, black flecks may appear upon the conjunctivæ or even upon the skin of the face, and the knuckles may have a bluish tint. Less than 20 cases of ochronosis are on record, but it is becoming evident that rare as the condition is it yet has several distinct causes. Albrecht[8] first suggested that alkaptonuria was one of these, and Osler[9] described the development of surface pigmentation of the characteristic distribution and character in three elderly men who were well-authenticated alkaptonurics. Clemens[10] and A. Wagner[11] have recently supplied the conclusive demonstration of the presence of ochronotic pigmentation of the cartilages in the body of a man who was a subject of the urinary anomaly under discussion. In four of the recorded cases of ochronosis the pigmentation was apparently due to the application of carbolic acid to ulcers of the legs during long series of years.[12] In some of the remaining cases the urine has shown no peculiarity of tint, or if present it is not mentioned in the records, and in others dark urine was passed which does not seem to have been either of the alkaptonuric or carboluric variety.[13]

The evidence available leaves no doubt in the mind that alkaptonuria is one of the causes of ochronosis and that prolonged absorption of carbolic acid is another, but it would appear that not all alkaptonurics develop ochronosis in later life, and in the records of post-mortem examinations of alkaptonurics by Fürbringer[14] and Moraczewski[15] no mention is made of staining of the cartilages which, if present, could hardly have been overlooked. It is not yet possible to explain why in some cases oxidation and blackening should occur within the tissues during life.

---

[1] Lecture I. was published in THE LANCET of July 4th, 1908, p. 1.

[2] Zeitschrift für Rationale Medicin, 1859, vol. vii., p. 130. Annalen der Chemie und Pharmacie, 1861, vol. cxvii., p. 98.

[3] Transactions of the Royal Medical and Chirurgical Society, 1823, vol. xii., p. 37.

[4] De Inspectione Urinarum, 1584, p. 50.

[5] Observationes Medicæ, 1609, Lib. iii., p. 558.

[6] Praxis Medica Admiranda, 1649, Lib. iii., cap. cxxxiv.

[7] Virchow's Archiv, 1866, vol. xxxvii., p. 212.

[8] Zeitschrift für Heilkunde, 1902, vol. xxiii., p. 366.

[9] THE LANCET, Jan. 2nd, 1904, p. 10.

[10] Verhandlungen des Congresses für innere Medicin, 1907, vol. xxiv., p. 249.

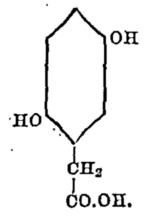
[11] Zeitschrift für innere Medicin, 1908, vol. lxv., p. 119.

[12] Pope: THE LANCET, Jan. 6th, 1906, p. 24. Pick: Berliner Klinisch Wochenschrift, 1906, vol. xliii., p. 478. Graeffner: Ibid., 1907 vol. xliv., p. 1015. Reid: Quarterly Journal of Medicine, 1908, vol. i., p. 199.

[13] Hansemann: Berliner Klinische Wochenschrift, 1892, vol. xxix., p. 660. Hecker und Wolf: Festschrift des Stadtkrankenhauses zu Dresden-Friedrichstadt, 1899, p. 325.

The substance which Bödeker isolated from the urine of his patient, and which he called alkapton, contained nitrogen and was obviously an impure material. In some cases afterwards recorded the abnormal constituent was thought to be pyrocatechin[16] and in others protocatechuic acid.[17] Marshall[18] obtained from the urine of his patient a substance which he named glycosuric acid, and R. Kirk,[19] investigating a group of cases in a single family, isolated an acid which he called uroleucic acid, which yielded on analysis percentages of carbon and hydrogen conforming closely to the requirements of the formula $C_9H_{10}O_5$. These two investigators, Marshall and Kirk, approached very nearly to the recognition of the actual nature and composition of the abnormal constituent. There are no sufficient grounds for supposing that the reducing substances present in these earlier cases were different from that found in all the more recent ones, and where re-examination of the urine or of material extracted therefrom has been possible the presence of homogentisic acid has since been demonstrated.

Homogentisic acid, the excretion of which is the essential feature of alkaptonuria, was isolated, analysed, and fully investigated by Wolkow and Baumann,[20] as is set forth in their classical paper, published in 1891, some five years later than the investigations of Marshall and Kirk. It was shown to have the empirical formula $C_8H_8O_4$; and the work of its discoverers, which has been confirmed by Huppert[21] and by syntheses effected in three different manners, by Baumann and Fränkel,[22] Osborne,[23] and Otto Neubauer and Flatow[24] respectively, has definitely proved that its constitution is that of paradioxybenzene-acetic acid (hydroquinone-acetic acid).



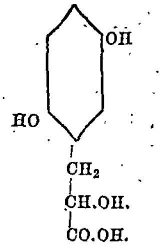
The acid was originally isolated from the urine as a lead salt, which may be obtained by an even far simpler method[25] than that employed by Wolkow and Baumann. The urine having been heated nearly to boiling, five grammes of solid neutral lead acetate are added for each 100 cubic centimetres of urine taken. A dense precipitate forms which is filtered off whilst the liquid is still hot, and the clear yellow filtrate is allowed to stand in a cool place. After a time lead homogentisate begins to separate out in crystalline form, and after 24 hours the crystals are filtered off, washed, and dried. The free acid may be obtained by passing sulphuretted hydrogen through ether in which the powdered lead salt is suspended. When the solvent, freed from lead sulphide by filtration, is allowed to evaporate colourless crystals of homogentisic acid are left and these melt at 146° to 147° C.

As alternative methods of extraction that of Wolkow and Baumann, in which the concentrated urine, acidified with sulphuric acid, is repeatedly extracted with ether, and the lead salt is thrown down from an aqueous solution of the residue from the ethereal extracts; or that of Erich Meyer,[26] which yields ethyl homogentisate, may be employed.

For the purpose of quantitative estimation of homogentisic acid in urine the volumetric method of Baumann[27] is made use of. This somewhat tedious method is based upon the reduction of a decinormal solution of silver nitrate in the presence of ammonia, but it is necessary to employ a stronger solution (8 per cent.) of ammonia than that prescribed by Baumann (3 per cent.) in order to obtain complete reduction in the allotted period of five minutes.[28]

Solutions of homogentisic acid yield all the characteristic reactions of alkapton urines: darken on exposure to air and more quickly when an alkali is added, reduce Fehling's solution on boiling and ammoniacal silver nitrate in the cold, and yield a transient blue colour with ferric chloride. Abderhalden and Falta[29] were able to detect the presence of the acid in the blood of an alkaptonuric man and to obtain the lead salt from the serum. From the fæces it is certainly absent, and I have failed to find it in the sweat. Ewald Stier[30] and Bandel[31] describe an unusual blackness of the aural wax of their patients, and from it the former obtained a substance which yielded the alkapton reactions.

In all the accounts of alkaptonuria written in recent years the statement will be found that in some cases there has been present in the urine, in addition to homogentisic acid, a second acid possessed of similar properties—viz., uroleucic acid, and that this substance is probably hydroquinone α-lactic acid.



This statement I believe to be grounded upon a misapprehension and to be incorrect, and the grounds for this belief have been fully set out in a recent paper written in conjunction with Dr. Hurtley.[32]

It will be remembered that the name of uroleucic acid was assigned by Kirk to the material which he isolated from the urine of his patients at a time before homogentisic acid was known. The late Dr. Kirk never claimed that this was a second distinct alkapton acid, and, indeed, in a letter to me he expressed his opinion that his uroleucic acid was merely impure homogentisic acid. Kirk's substance, to which as the result of his analyses he assigned the formula $C_9H_{10}O_5$, melted at about 133·3° C., whereas, as has already been mentioned, the melting point of homogentisic acid is 146° to 147° C. The analytical figures agreed very closely with the requirements of the above formula, and titration of a solution with alkali under a layer of petroleum ether gave a result which indicated a molecular weight corresponding to that of a monobasic acid of the above constitution. However, there is no room for doubt that Kirk's later surmise was correct and that in spite of these coincidences the substance which he analysed was impure homogentisic acid. Thus we found that when Kirk's method of extraction was applied to an alkapton urine in which a second acid had been sought for without success the product obtained agreed with his description of the lead salt which he obtained, and the free acid isolated from the lead salt melted at 134° to 136° C., but examination showed that it consisted mainly of homogentisic acid. It is known that the urines which Kirk examined contained this acid. Huppert obtained it from some of Kirk's original material, and we also found it in a further specimen of that material, blackened with age, but labelled "uroleucic acid." Moreover, when in 1902 I was enabled, by the kindness of Dr. Kirk, to examine fresh specimens of the urine of his patients much homogentisic acid was obtained from them but there was no indication of the presence of a second alkapton acid.

The view that the uroleucic acid of Kirk was a distinct substance had its origin in some investigations of the late Professor Huppert,[33] carried out upon some of the original material sent to him in 1897. After separation of as much as possible of the homogentisic acid which it contained a residue remained which melted at 130·5° C., and this residue Huppert regarded as uroleucic acid. Further investigations led him to the conclusion that it was a derivative of hydroquinone and was probably hydroquinone-α-lactic acid, which acid has the formula $C_9H_{10}O_5$ assigned by Kirk to uroleucic acid.

---

[14] Berliner Klinische Wochenschrift, 1875, vol. xii., pp. 313, 390.
[15] Centralblatt für innere Medicin, 1896, vol. xvii., p. 177.
[16] Ebstein und Müller: Virchow's Archiv, 1875, vol. lxii., p. 554.
[17] Fleischer: Berliner Klinische Wochenschrift, 1875, vol. l., pp. 529, 547. W. Smith: Dublin Journal of the Medical Sciences, 1882, vol. lxxiii., p. 465.
[18] Medical News, Philadelphia, 1887, vol. l., p. 35.
[19] Journal of Anatomy and Physiology, 1889, vol. xxiii., p. 69. Brit. Med. Jour., 1888, vol. ii., p. 232.
[20] Zeitschrift für physiologische Chemie, 1891, vol. xv., p. 228.
[21] Deutsches Archiv für klinische Medicin (Festschrift), 1899, vol. lxiv., p. 129.
[22] Zeitschrift für physiologische Chemie, 1895, vol. xx., p. 219.
[23] Journal of Physiology, 1903, xxix.; Proc. Physiol. Soc., xiii
[24] Zeitschrift für physiologische Chemie, 1907, vol. lii., p. 375.
[25] Garrod: Journal of Physiology, 1899, vol. xxiii., p. 512.
[26] Deutsches Archiv für klinische Medicin, 1901, vol. lxx., p. 433.
[27] Zeitschrift für physiologische Chemie, 1892, vol. xvi., p. 268.
[28] Garrod and Hurtley: Journal of Physiology, 1905, vol. xxxiii., p. 206.
[29] Zeitschrift für physiologische Chemie, 1903, vol. xxxix., p. 143.
[30] Berliner klinische Wochenschrift, 1898, vol. xxxv., p. 185.
[31] Deutsche medicinische Wochenschrift, 1906, vol. xxxii., p. 237.
[32] Journal of Physiology, 1907, vol. xxxvi., p. 136.

The accuracy of Professor Huppert's results does not admit of question, but it is evident that the scanty material at his disposal did not allow of a fresh analysis of the fraction of lower melting point, and if, as I believe, after careful comparison of Kirk's account of his investigations with Huppert's description of the material sent to him, and after personal examination of a further portion of the material, the substance examined was not a crude one, as Huppert supposed, but the actual uroleucic acid analysed by Kirk, it is obvious that the results of analyses of the material as a whole could not be applied to the fraction of lower melting point. Otto Neubauer and Flatow,[34] who have succeeded in effecting the synthesis of hydroquinone α-lactic acid, have shown that it differs from the supposed uroleucic acid in melting point and in other respects; and it is a significant fact that with the exception of a minute residue, which melted at 133° C., but which only sufficed for the determination of the melting point, obtained by Langstein and E. Meyer[35] from the urine of their patient, no indication of the presence of uroleucic acid has been found in any of the alkapton urines since described. Therefore the conclusion appears to be justified that no sufficient evidence is forthcoming of the occurrence in some alkapton urines of a second abnormal acid (uroleuic acid), a conclusion which has the advantage of making for simplicity. Beyond the presence in it of homogentisic acid the urine of alkaptonurics shows no obvious deviation from the normal. Some earlier investigators described a conspicuous diminution of the uric acid output, but more recent work has failed to confirm this. In a number of cases the excretion of uric acid has been found not to be below the average, and crystals of uric acid stained by the brown pigment are not infrequently deposited from such urines. We may therefore confine our attention to the consideration of the parent substances and mode of origin of homogentisic acid in the human organism.

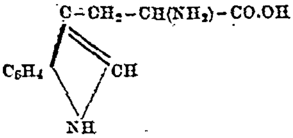
Seeing that there is no evidence that synthesis of the benzene ring ever occurs in the animal economy Wolkow and Baumann looked to the proteins of the food and tissues as the most likely sources of the alkapton acid and to the aromatic fractions which proteins contain—viz., tyrosin and phenyl-alanin—as its special precursors. This conjecture was shown to be correct by the result of the administration of *tyrosin* by the mouth to their alkaptonuric subject. Such administration caused a very conspicuous increase of the output of homogentisic acid. Since then this observation has frequently been repeated by other investigators, and the result has been shown to hold good for alkaptonurics in general. A corresponding increase follows an augmented intake of protein food and especially of such proteins as are unusually rich in the aromatic fractions.

Wolkow and Baumann were not able to test the effect of the administration of the phenyl-alanin, but at a later period Langstein and Meyer[36] arrived at the conclusion that the tyrosin of the proteins broken down in the metabolism of their alkaptonuric did not suffice to account for the quantity of alkapton acid which he excreted. This conclusion was based upon a comparison of the estimated daily output of homogentisic acid with that of nitrogen, which latter affords a measure of the protein destruction going on in the body. It was therefore probable that phenyl-alanin must also serve as a parent substance, and that it does so was afterwards demonstrated by Falta and Langstein[37] who found that phenyl-alanin given by the mouth increases the homogentisic output just as tyrosin does.

Falta[38] afterwards showed by a long series of feeding experiments with different proteins added to a constant diet, that the excretion of alkapton acid varies directly with the richness of the proteins given in phenyl-alanin and tyrosin, and arrived at the conclusion that on any given diet the output corresponds closely with that to be expected if the aromatic fractions of the catabolised proteins are wholly converted into homogentisic acid and excreted as such.

The yield of alkapton acid after feeding with tyrosin or phenyl-alanin varies with the mode of administration, and when small doses are given at short intervals, instead of a single large dose, the output is practically quantitative. This observation we owe to Mittelbach.[39]

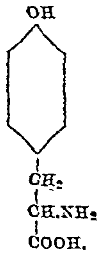
Yet one other of the known protein fractions has a benzene ring in its molecule, but in tryptophane the ring forms part of the more complex, heterocyclic, indol grouping. It appears unlikely *a priori* that the catabolism of tryptophane will follow the same path as tyrosin, and that it will become converted into homogentisic acid, but in order to test the point I recently administered one gramme of tryptophane, for which I was indebted to the kindness of Dr. F. G. Hopkins, to an alkaptonuric boy.



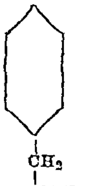
Tryptophane.

The dose was a small one, and any effect might be expected to be slight. Therefore an equivalent dose of tyrosin (0·9 gramme) was given on two occasions as a control, the patient being kept upon a constant diet. The effect of each dose of tyrosin upon the $\frac{\text{homogentisic acid}}{\text{nitrogen}}$ ratio was clearly marked, but no disturbance of the ratio was observed on the day on which the tryptophane was given. Hence I feel justified in concluding that tryptophane administered by the mouth does not increase the output of homogentisic acid. However, it would be desirable that this should be confirmed by the giving of larger doses. I may add that Dr. Hopkins, who was good enough to examine the urine of the tryptophane day, failed to find in it any abnormal constituent the presence of which could be ascribed to an error of tryptophane catabolism. To sum up, it would appear that the tyrosin and phenyl-alanin of proteins are the only parent substances of the alkapton acid.

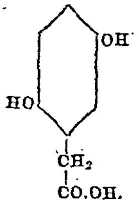
A glance at the respective formulæ of tyrosin and homogentisic acid suffices to show that the change from the one to the other is a complex one, for it involves the removal of the hydroxyl group from the para-position and substitution of two others in the 2:5 position in relation to the side chain, or possibly a shifting of the side chain itself.



Tyrosin.



Phenyl-alanin.



Homogentisic acid.

Such a change presented greater chemical difficulties when Baumann wrote than it does now and could not be paralleled in animal metabolism. As, however, such successive reduction and oxidation were known to be brought about by bacterial action, Wolkow and Baumann suggested that it might have its seat in the intestine of alkaptonurics, being there brought about under the influence of a rare specific micro-organism. Nowadays this infective theory, which was at one time widely accepted, has been completely abandoned, for it has been abundantly disproved.

Intestinal disinfection has no influence upon the excretion of homogentisic acid by alkaptonurics, nor can any organism be grown from their fæces which is able to effect such a conversion of tyrosin. Moreover, it has been shown by Mittelbach,[40] and afterwards by Langstein and Meyer and by Falta,[41] that abstinence from protein food, and indeed from all food, does not arrest the excretion of the acid, although it naturally greatly reduces its amount. Hence we must conclude that not the food proteins alone but also those of the tissues contribute their quota to the total output of homogentisic acid, which would not be the case if the conversion were effected in the alimentary canal and the fact, which we owe to Abderhalden, Bloch, and Rona,[42] that the soluble dipeptide glycyl-l-tyrosin when injected subcutaneously into an alkaptonuric produces the same effect as tyrosin introduced into the alimentary canal affords equally conclusive evidence that the change is not merely due to the action of intestinal bacteria.

---

[33] Zeitschrift für physiologische Chemie, 1897, vol. xxiii., p. 412.

[34] Loc. cit., sub. 24.

[35] Deutsches Archiv für Klinische Medicin, 1903, vol. lxxviii., p. 161.

[36] Deutsches Archiv für Klinische Medicin, 1903, vol. lxxviii., p. 161.

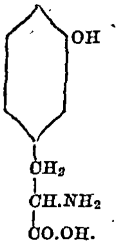
[37] Zeitschrift für physiologische Chemie, 1903, vol. xxxvii., p. 574; see also Falta: Deutsches Archiv für klinische Medicin, 1904, vol. lxxxi., p. 250.

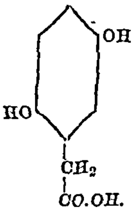
[38] Deutsches Archiv für klinische Medicin, 1904, vol. lxxxi., p. 231.

[39] Ibid., 1901, vol. lxxi., p. 50.

Lastly, if the aromatic fractions of the proteins were thus changed in the intestine before undergoing absorption therefrom, seeing that they are not synthesised in the animal organism, the tissue proteins of alkaptonurics should exhibit a shortage of tyrosin and phenyl-alanin, if, indeed, such a deviation from normality be compatible with the maintenance of life. Abderhalden and Falta,[43] who have investigated the blood proteins of such subjects as well as their hair and nails, have found no evidence of deficiency of the fractions in question.

The change from phenyl-alanin to homogentisic acid presents less difficulty than that from tyrosin, for that compound has no hydroxyl group upon the benzene ring, and it is not improbable that with tyrosin the removal of the parahydroxyl group and the oxidation in the 2 and 5 positions occur at quite distinct stages of the catabolic process, so that no shifting of the hydroxyl or of the side chain is involved. Such a view gains support from the fact, ascertained by L. Blum,[44] that metatyrosin, which he has prepared synthetically, and which has its hydroxyl group in the same position relatively to the side chain as one of the hydroxyls of homogentisic acid, is actually not converted into homogentisic acid when administered by the mouth, for it does not increase the output of that acid by an alkaptonuric. This behaviour of metatyrosin affords a further proof of a fact which had previously been demonstrated by Falta, namely, that substitutions upon the benzene ring are capable of preventing the formation of homogentisic acid from tyrosin. Falta[45] showed that a similar arrest occurs as the result of substitution of halogens, for neither dibrom-tyrosin nor the halogen proteins increase the homogentisic excretion of an alkaptonuric. On the other hand, as we shall see presently, the factor which determines such conversion is the structure of the side chain and the presence of a grouping which is readily attacked in connexion with the α carbon atom.


Metatyrosin.


Homogentisic acid.

It will be obvious, from all that has gone before, that the error of metabolism which is at the back of alkaptonuria is a failure to deal with the aromatic fractions of proteins in the ordinary way, and that both the proteins of the food and those of the tissues are implicated in the error. Before proceeding further it is, therefore, necessary to consider what is known as to the ordinary way of dealing with these fractions.

It is an unquestionable fact that the great majority of aromatic compounds, when introduced into the human organism, escape with their benzene ring intact and are excreted in the urine in combination with sulphuric acid, as aromatic sulphates, or with glycocoll, as the acids of the hippuric group. Not so tyrosin and phenyl-alanin, which are in no sense foreign substances but important constituents of proteins, for these suffer disintegration of the aromatic nucleus and are completely destroyed. It is true that they do not stand quite alone in this respect, nor is it to be expected that they should do so, for any aromatic substance which is an intermediate product of their catabolism will obviously be in like manner broken up, as also will compounds so closely allied to them in their molecular structure that when exposed to the same destructive influences they share their fate. Some recent investigations have supplied a clue to the seat of the destruction of such substances and the nature of the changes which they undergo. Thus, G. Embden, Saloman, and F. Schmidt[46] found that when certain protein substances are perfused through the liver acetone is formed. Glycocoll, alanin, glutaminic acid, and asparagin led to no such formation of acetone, but with leucin, tyrosin, and phenyl-alanin, as well as with phenyl α-lactic and homogentisic acids, a conspicuous yield of acetone was obtained. The aromatic acids on this list are all broken up in the normal organism, whereas phenyl β-lactic, phenyl-propionic, and phenyl-acetic acids, which are not so broken up, do not yield acetone in the perfused liver. Furthermore, J. Barr and L. Blum[47] have found that substances which figure in the above list of acetone-yielding compounds cause an increased excretion of β-oxybutyric acid when administered to diabetics. Hence they regard it as probable that the formation of acetone from them is a secondary event and that β-oxybutyric acid is first formed.

The question which next calls for consideration is whether in alkaptonuria the failure to deal with tyrosin and phenyl-alanin is or is not complete. In diabetes we are confronted with a failure to burn glucose, which may be of any degree, from such as leads to a small excretion of glucose only after a meal rich in carbohydrates, to a failure so nearly complete that the proteins are called upon to contribute to the urinary output of glucose. In congenital cases of alkaptonuria, at any rate, and concerning temporary cases no information on this point is forthcoming, the excretion of homogentisic acid, although it varies considerably, as it obviously must do, according to the nature of the diet taken, is fairly uniform in different cases, provided always that the food of the subjects is similar in kind and in proportions.[48] There is no evidence that the alkapton acid ever occurs in traces in the urine; an output of several grammes in the day is observed or no homogentisic acid is found. Four or five grammes a day is the average on an ordinary mixed diet. The evidence afforded by the ratio of homogentisic acid to nitrogen is of far greater value in this connexion than that derived from the measure of the daily output of homogentisic acid alone. A mere increased supply of a given protein in the food does not disturb this ratio, for with the increased destruction nitrogen and alkapton acid in the urine increase *pari passu*. But though unaffected by quantitative changes in the diet the ratio is profoundly disturbed by changes in the quality of the proteins taken, as must needs be the case, seeing that some proteins are far richer in tyrosin and phenyl-alanin than others, whereas their yield of nitrogen is comparatively constant. Thus the substitution of casein, which is rich in the aromatic fractions, for egg albumin, in which they are much more scantily present, will greatly increase the output of homogentisic acid relatively to that of nitrogen, as Langstein and Meyer and Falta have demonstrated.

If in alkaptonuria the error be complete and maximal, all subjects of that anomaly when fed upon a given standard diet should excrete equal quantities of homogentisic acid, and changes in the quantities consumed, although they will conspicuously affect the total output of the acid, should leave the H:N ratio $\left(\frac{\text{homogentisic acid}}{\text{nitrogen}}\right)$ undisturbed. In order to obtain conclusive evidence upon this point it would be necessary to place a number of alkaptonurics upon a standard diet, in which not only are the proteins the same but in which also the several proteins are represented in uniform proportions. These conditions would be best fulfilled by a diet of milk alone. Unfortunately, observations so carried out are not available, but such observations as are forthcoming strongly suggest that the error is in all cases of one degree, and that the failure to deal with tyrosin and phenyl-alanin is complete. The best available standard, although far from a uniform one, is a mixed diet, and the following figures are drawn from the observations of Langstein and Meyer and Falta upon one alkaptonuric, of Schumm upon another, and of Hele and myself upon yet three others. All the patients were, at the times to which the figures refer, upon a mixed diet, and the results serve to show that under roughly uniform conditions of diet the ratios show at least a striking similarity.[49]

---

[40] Loc cit., sub. 39.

[41] Loc. cit., sub. 36 and 38.

[42] Zeitschrift für Physiologische Chemie, 1907, vol. lii., p. 435.

[43] Ibid., 1903, vol. xxxix., p. 143, and 1907, vol. lii., p. 445.

[44] Verhandlungen des Congresses für innere Medicin, 1907, vol. xxiv., p. 240.

[45] Loc. cit., sub. 39, p. 254.

[46] Hofmeister's Beiträge, 1906, vol. viii., pp. 121, 129.

[47] Archiv für Experimentelle Pathologie und Pharmakologie, 1906, vol. lv., p. 89.

[48] Most unusually high figures may be ascribed to the diet taken; but it should be mentioned that Zimper records figures for his case which are out of all proportion to those obtained in any other. The homogentisic acid output amounted to as much as 18 grammes per diem. The tyrosin and phenyl-alanin of proteins broken down could not account for such an excretion.

Table showing the Daily H : N Ratios in Five Cases of Alkaptonuria, during Periods in which Mixed Diets were Taken.

Anton M., in Basle, aged 50 years.				Male, 20 years. O. Schumm.	Thomas P., aged eight years.		Albert P., aged four years.	Minnie L., aged three years.
Langstein and E. Meyer.		Falta.						
46 : 100	36 : 100	48·1 : 100	40·0 : 100	44·5 : 100	43·3 : 100	44·1 : 100	48·4 : 100	42·7 : 100
44 „	42 „	44·9 „	38·0 „	42·2 „	39·9 „	48·1 „	47·6 „	27·0 „
42 „	38 „	40·3 „	40·5 „	47·6 „	35·9 „	44·7 „	44·9 „	48·3 „
42 „	34 „	44·3 „	40·8 „	42·6 „	40·0 „	49·0 „	52·7 „	39·6 „
45 „	34 „	50·4 „	41·1 „	49·5 „	37·7 „	—	48·3 „	39·1 „
46 „	40 „	44·5 „	—	42·9 „	44·4 „	—	50·7 „	34·5 „
45 „	53 „	40·9 „	—	45·8 „	35·9 „	—	45·4 „	44·8 „
44 „	40 „	40·8 „	—	41·3 „	38·7 „	—	54·3 „	—
—	45 „	41·8 „	—	—	43·9 „	—	53·5 „	—
—	54 „	—	—	—	—	—	—	—
Averages :—								
44 : 100	41·6 : 100	44·0 : 100	40·1 : 100	44·0 : 100	40·0 : 100	46·5 : 100	49·6 : 100	39·4 : 100

Note.—The above ratios are all some 5·8 per cent. too low, owing to the use of 3 per cent. ammonia in estimating homogentisic acid. The error so caused is fairly constant. The figures for Minnie L. are obtained by substracting 5·8 per cent. from each ratio, 8 per cent. ammonia having been used in this case. The first four columns relate to the same individual.

Some other observations bearing upon this point have been published in the last year or two. Cronvall[50] obtained ratios varying between 45:100 and 61:100 in his case, the mean being 55:100. As he used 8 per cent. ammonia in estimating the homogentisic acid the percentages of that acid must be reduced by 5·8 per cent. to render them comparable with those given in the table, and he himself suggested that the ratios were rendered higher by a considerable amount of milk in his patient's diet.

Gross and Allard[51] in a recent investigation obtained very high H:N ratios, 60-70:100, which they regarded as showing a want of uniformity in different cases, but their patient was taking large quantities of milk, on one day as much as three litres, and changes in the protein content of the diet appear to have been chiefly brought about by the addition or withdrawal of milk. Their ratios are comparable with those worked out by Langstein and E. Meyer during a period of milk and plasmon diet (average 62·6:100), and that the above explanation is correct is shown by the fact that even the addition of plasmon (sodium casein) to the diet scarcely affected the ratio, whereas when superposed upon an ordinary mixed diet it greatly increases the homogentisic output relatively to that of nitrogen. Abderhalden, Bloch, and Rona[52] also give some figures relating to yet another case, that of a boy, and the ratios obtained from these figures are somewhat low, the average for five days being 35·7:100. The nature of the diet is not mentioned.

So far as the available evidence goes it tends to show that there is only one degree of alkaptonuria, and that from a given quantity of a given protein all subjects of the anomaly tend to form and to excrete the same amount of homogentisic acid, and it is probable that that quantity is a maximal one, seeing that Falta has shown that the output of homogentisic acid corresponds roughly to the estimated amounts of the aromatic fractions in the proteins brok down.

Two explanations are possible of the fact that alkaptonurics excrete homogentisic acid whereas normal person do not. Either the alkapton acid is a strictly abnorma product formed by a perverted metabolism of tyrosin an phenyl-alanin, in virtue of which these protein fraction experience a wholly different fate from that which overtake them in the normal organism, or it is an intermediate product of normal metabolism which is usually completely destroyed and does not come to excretion, but which in alkaptonuria escapes destruction.

It may be premised that the behaviour of homogentisic acid in the organism is rather that of a normal product than that of an interloper. None of the chemical protective mechanisms are called into play to cope with it in alkaptonuria save that which is called out by any acid which is not destroyed in metabolism. It is excreted in simple combination with bases and not as an aromatic sulphate or in combination with glycocoll. Its next homologue, gentisic acid, on the other hand, although it is for the most part destroyed in passage through the body, is in part excreted as aromatic sulphate, as Likhatscheff[53] showed and as Neubauer and Falta[54] also found.

As an acid, homogentisic acid is in part combined with ammonia, for the protection against acid is in no wise selective. Erich Meyer[55] obtained evidence of an increased excretion of ammonia by an alkaptonuric child and Schumm[56] made a like observation in the case of an adult. In neither instance was the increase of urinary ammonia comparable with that observed in some pathological conditions, such as grave diabetes; for, as we have seen, the output of the acid itself is never large as compared with that of the acids of the acetone group in some morbid states.

It stands to reason that an intermediate product of catabolism which is normally absent from the excreta must needs be completely destroyed under ordinary conditions, and that homogentisic acid conforms to this requirement there is abundant evidence to show. Thus, although H. Embden[57] succeeded in producing a transitory alkaptonuria in himself by swallowing eight grammes of the acid, he found that smaller doses had no such effect. Falta,[58] too, failed to induce an excretion of the acid in himself and two others by taking quantities of from four to six grammes in repeated half-gramme doses at short intervals. Hence it is evident that homogentisic acid is a member of that small group of aromatic compounds the benzene ring of which is broken down in their passage through the body, and, as has been mentioned, further evidence of this is afforded by the fact that it yields acetone when perfused through the liver. In these respects it behaves as a normal intermediate product might be expected to do. That this destructive power may be overtaxed is shown by Embden's experiment upon himself and by those of Wolkow and Baumann upon dogs.[59] In normal persons such overtaxing can never occur, since the maximum daily output taken at a single dose will hardly give rise to experimental alkaptonuria; but in disease the power of destroying homogentisic acid is sometimes conspicuously lowered—for example, in grave cases of diabetes, as Langstein,[60] Falta,[61] and others have demonstrated.

---

[49] Journal of Physiology, 1905, vol. xxxiii., p. 198, and 1906, vol. xxxv. (Proceedings of the Physiological Society).

[50] Upsala Läkareförenings Förhandlingar, 1907, vol. xii., p. 402.

[51] Zeitschrift für klinische Medicin, 1907, vol. lxiv., p. 359.

[52] Zeitschrift für physiologische Chemie, 1907, vol. lii., p. 444.

[53] Zeitschrift für physiologische Chemie, 1896, vol. xxi., p. 422.

[54] Ibid., 1904, vol. xlii., p. 92.

[55] Deutsches Archiv für klinische Medicin, 1901, vol. lxx., p. 453.

[56] Münchener medicinische Wochenschrift, 1904, p. 1599.

[57] Zeitschrift für physiologische Chemie, 1893, vol. xvii., p. 182, and vol. xviii., p. 304.

[58] Loc. cit., sub. 38, p. 254.

Garnier and Voirin,[62] who were the first to suggest that homogentisic acid is a product of normal metabolism, were inclined to ascribe its presence in the urine to excessive production, the power of destroying it being overtaxed. Whether the power of destroying it were merely overtaxed or wholly lost it might be expected that homogentisic acid given by the mouth to an alkaptonuric will be excreted nearly quantitatively, being added to the ordinary output, and H. Embden showed that this is the case. If, however, it were merely a question of overtaxing, the output of the acid should be considerably less than the amount which corresponds to the whole of the aromatic fraction of the proteins broken down, but, as we have seen, there is reason to believe that the failure to deal with tyrosin and phenyl-alanin in the usual way is complete. On such grounds the more recent adherents of the intermediate product theory have held that the alkaptonuric differs from the normal individual in that he does not possess the power of destroying homogentisic acid.

This theory has lately been challenged by Grutterink and Hijmans van der Bergh,[63] and upon the following grounds. To patients who were found to have much impaired powers of destroying homogentisic acid taken by the mouth, being sufferers from diabetes or hepatic disease, and in one of whom as small a dose as two grammes caused a temporary alkaptonuria, these observers administered tyrosin in doses of 10 to 15 grammes. They argue that after such large doses of tyrosin sufficient homogentisic acid should have been formed to overtax the limited destructive power, supposing that it were a normal intermediate product, and that some should have been excreted in the patient's urine, whereas in no instance did such a result follow. This evidence cannot certainly be lightly set aside. However, we cannot be sure that at any moment sufficient alkapton acid would be in existence to overtax the destructive power, which although diminished was certainly not abolished. Nor is it certain that when such impairment results from disease the formation of homogentisic acid, as well as its destruction, is not interfered with. Grütterink and van der Bergh satisfied themselves that the tyrosin given was well absorbed, but they do not state whether tyrosin itself, or derivatives thereof, other than homogentisic acid, were sought for in the urine. Knoop[64] had previously raised a similar objection. He fed dogs with phenyl α-lactic acid, a compound which, like tyrosin, increases the homogentisic output of alkaptonurics. He, too, argued that, as the power of dogs to destroy homogentisic acid is known to be limited, if it were a normal product it should have appeared in the urine. However, the fact that some of the phenyl α-lactic acid was recovered as such from the urine suggests that a block occurred at an earlier stage in the catabolic series.

It appears to me that at present the evidence in favour of the theory of an intermediate product far outweighs that which can be brought against it. Perhaps the most serious objection which can be raised to the view that homogentisic acid is an abnormal product peculiar to alkaptonurics is that such a view involves the assumption that the alkaptonuric, who alone has the power of forming homogentisic acid, is also peculiar in having no power of destroying it when formed.

The impaired destruction of the alkapton acid which results from certain morbid conditions has also interesting bearings upon the question of temporary or intermittent alkaptonuria. The records of such cases are very few, only four or five in all, and further work upon such cases is much to be desired. In some of them the evidence that the condition was temporary is not conclusive and in others the evidence of the nature of the abnormal excretory product is not sufficiently complete for the establishment of so important a point. In none of them save in that of Zimnicki,[65] whose paper appeared in a Russian journal which I have not been able to obtain, have quantitative estimations been carried out. His patient, whose alkaptonuria was intermittent, suffered from hypertrophic cirrhosis of the liver. In Geyger's[66] case, also intermittent, the patient was a diabetic. Of strictly temporary cases that described by Carl Hirsch[67] is the most remarkable. A girl, aged 17 years, with a febrile gastro-enteric catarrh, passed for three days only a urine which darkened on standing, contained indican, and also yielded the alkapton reactions. From it Professor Siegfried extracted an acid which formed a sparingly soluble lead salt, but neither the melting point of the acid nor any analytical figures are given.

A temporary or intermittent excretion of homogentisic acid seems more compatible with the theory that it is a normal metabolic product than with the opposite theory. It is noteworthy that the diseases from which Geyger and Zimnicki's patients suffered were such as have been found to be sometimes attended by impaired destructive power of the acid in question, and is conceivable that in rare instances the impairment may proceed further and become practically complete. I realise, however, that what has been suggested above as to diminution of power of forming as well as of destroying the alkapton acid in such diseases may be equally urged against such an interpretation of the intermittent cases.

In support of the intermediate product theory certain observations of Gonnermann,[68] Bartels,[69] and others have been adduced as pointing to the formation of homogentisic acid in plants by the action of a tyrosinase upon tyrosin. The evidence brought forward has never appeared to me to be at all conclusive, and the investigations of Schultze,[70] who has failed to obtain any evidence of the formation of homogentisic acid under such conditions, have deprived this argument of all cogency.

Assuming it to be a fact that homogentisic acid is a product of normal metabolism, the results of the administration of various aromatic acids to alkaptonurics may reasonably be expected to throw light upon the higher intermediate steps between the parent protein fractions and that substance. Any compound which represents a link in the chain should, on the one hand, be destroyed, as tyrosin and homogentisic acid are in the normal organism, and on the other hand should increase the output of the latter by alkaptonurics. Any substance which does not behave in the manner indicated cannot form such an intermediate link.

Many aromatic acids have been administered to alkaptonurics at various times, but very few have been found to fulfil the above conditions. The most complete set of observations of the kind have been carried out by Otto Neubauer and Falta,[71] and their findings have recently been fully confirmed by Grutterink and van der Bergh.[72] It was found that compounds such as phenyl-acetic and phenyl-propionic acids, which have simple side chains, have no effect upon the output. Those which increase homogentisic excretion resemble tyrosin and phenyl-alanin in having an easily attacked grouping in the α position upon the side chain, whereas when the substituted group occupies the β position no such result follows. Thus phenyl α-lactic and phenyl-pyruvic acids are excreted as homogentisic acid, whereas phenyl β-lactic acid is not. Even the presence of a second substituted group in β position, as in phenyl-glyceric acid, suffices to prevent the transformation.

---

[59] Loc. cit., sub 20, p. 282.

[60] Deutsche medicinische Wochenschrift, 1905, vol. xxxi., p. 457.

[61] Loc. cit., sub. 38, p. 265.

[62] Archives de Physiologie, 1902, 5e s, vol. iv., p. 225.

[63] Nederlandsh Tijdschrift voor Geneeskunde, 1907, vol. ii., p. 1117.

[64] Hofmeister's Beiträge, 1905, vol. vi., 150.

[65] Jeshenedelnik, 1899, No. 4; abstract Centralblatt für Stoffwechsel und Verdauungskrankheiten, 1900, vol. i., p. 348.

[66] Pharmakeutische Zeitung, 1892, p. 488.

[67] Berliner klinische Wochenschrift, 1897, vol. xxxiv., p. 866.

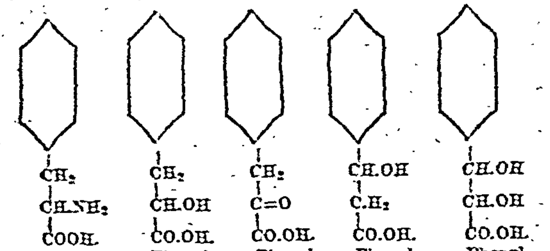
[68] Archiv für gesammte Physiologie (Pflüger), vol. lxxxii, p. 289.

[69] Berichte der Deutschen Botanischen Gesellschaft, 1902, vol. xx., p. 454.

[70] Zeitschrift für physiologische Chemie, 1906, vol. xlviii., p. 396; 1907, vol. l., p. 508.

[71] Zeitschrift für physiologische Chemie, 1904, vol. xlii., p. 81.

[72] Loc. cit., sub. 63.

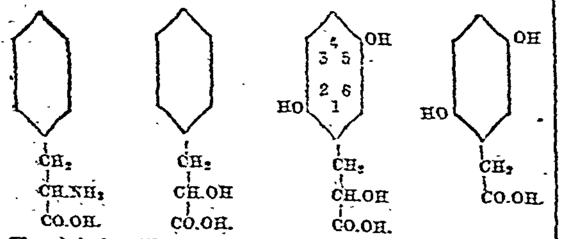


Phenyl-alanin. Phenyl-α-lactic acid. Phenyl-pyruvic acid. Phenyl-β-lactic acid. Phenyl-glyceric acid.

Again, when the substituted grouping in the α position is rendered more stable by benzoylation the formation of homogentisic acid is prevented, for, as L. Blum[73] has found, benzoyl-phenyl-alanin does not increase the alkapton output.

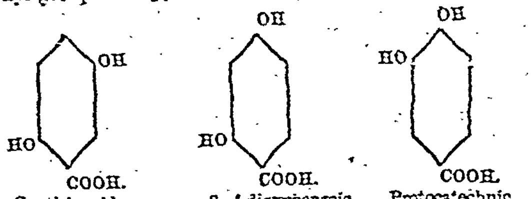
There is good reason to believe that desamination—that is to say, the removal of the amino group—is a very early stage in the catabolism of the amino-acids of which the molecules of proteins are built up, and of the aromatic fractions amongst others. After a meal rich in proteins the resulting excretion of homogentisic acid was found by Falta[74] to commence more promptly and to come to an end sooner than the corresponding increase of the output of nitrogen, and this has been confirmed by Langstein and Meyer. Mittelbach[75] placed the maximum excretion of homogentisic acid within the two or three hours following the protein meal, but in some observations which I made[76] upon specimens of urine passed at short intervals throughout the day, although an obvious increase occurred shortly after a meal rich in protein, the excretion was still larger during the second period of four hours than during the four hours immediately following the meal. It is highly probable that desamination is effected by substitution of hydroxyl for the amino group, and that the formation of α-lactic acid is the first step in the breaking down of phenyl-alanin. Not only does phenyl α-lactic acid fulfil the conditions laid down above, but it is one of the compounds which have been found to yield acetone when perfused through the liver.

Between phenyl α-lactic acid and homogentisic acid at least one other stage must intervene, for the introduction of the two hydroxyl groups in the 2 and 5 positions upon the benzene ring must precede the oxidation of the side chain. Were this not the case phenyl-acetic acid would be formed and the series of changes would be arrested, for phenyl-acetic acid has not the properties requisite for an intermediate product, being neither burnt by a normal individual nor converted into homogentisic acid by the alkaptonuric. The most likely intermediate product is hydroquinone α-lactic acid, which was formerly thought to be the uroleucic acid of Kirk.



Phenyl-alanin. Phenyl α-lactic acid. Hydroquinone α-lactic acid. Homogentisic acid.

With certain reserves as to substitutions upon the ring, the structure of the side chain clearly plays the chief part in determining the formation of homogentisic acid from tyrosin and phenyl-alanin, but apparently that which determines the disruption of the ring, and the destruction of homogentisic acid when it has been formed, is the presence of the two hydroxyl groups in the 2 and 5 positions upon the benzene ring. Thus, Neubauer and Falta found that of the three isomeric dioxybenzoic acids gentisic acid alone was to a large extent burnt in the human organism, although some 15 per cent. of the dose given appeared in the urine as aromatic sulphate. In gentisic acid, as in its homologue the alkapton acid, the hydroxyl groups occupy the 2 and 5 positions.



Gentisic acid. 2 : 4 dioxybenzoic acid. Protocatechuic acid.

When the alkaptonuric took gentisic acid by the mouth Neubauer and Falta found that the reducing power of his urine was conspicuously increased not owing to a greater output of homogentisic acid which could hardly have resulted but to the excretion of gentisic acid as such.

This indicates that in alkaptonuria the failure to break up the benzene ring extends to acids with hydroxyl groups in the 2 : 5 position other than homogentisic acid, and that the essential error resolves itself into an inability to destroy the ring of acids so constituted. Homogentisic acid is apparently the only compound formed in normal metabolism which offers itself for such disruption, and accordingly the alkaptonuric excretes it. It has been pointed out above that a higher intermediate compound of such structure must be formed, but this would appear to be changed to homogentisic acid before it comes into the grip of the destructive process.

This conception of the anomaly locates the error in the ante-penultimate stage of the catabolism of the aromatic protein fractions which is in accord with the fact that all the tyrosin and phenyl-alanin, both exogenous and endogenous, is swept into the net and goes to contribute to the excreted homogentisic acid in alkaptonuria.

We may further conceive that the splitting of the benzene ring in normal metabolism is the work of a special enzyme, that in congenital alkaptonuria this enzyme is wanting, whilst in disease its working may be partially or even completely inhibited.

The experiments of G. Embden and others upon perfusion of the liver suggest that organ as the most probable seat of the change. If, however, the acetone-forming enzyme is that which is at fault, it is worthy of note that not only the aromatic fractions of proteins but leucin also contributes to the formation of acetone and might be expected to be likewise involved. Dr. Hurtley was good enough to examine a large quantity of alkapton urine for me by extraction with ether after acidification, and distillation in steam of the residue of the ethereal extracts, but was unable to detect the presence of any abnormal acid of the fatty series, and there is at present no evidence forthcoming of any disturbance of the path of leucin catabolism in alkaptonuria.

---

[73] Loc. cit., sub. 44.

[74] Verhandlungen der Naturforschenden Gesellschaft in Basel, 1903, vol. xv.

[75] Loc. cit., sub. 39.

[76] Transactions of the Royal Medical and Chirurgical Society, 1903, vol. lxxxv.

THE NECESSITY FOR THE REMOVAL OF THE APPENDIX AFTER PERITYPHLITIC ABSCESS.

By WILLIAM HENRY BATTLE, F.R.C.S.,
SURGEON TO ST. THOMAS'S HOSPITAL.

IN a previous paper[1] I have considered the question as to the greater safety of the two methods of treatment of an appendix abscess, "simple incision with drainage of the abscess cavity," as compared with "incision, removal of the appendix, and drainage," and have given reasons for thinking the former much the better plan to follow, unless the abscess is small and the general condition of the patient satisfactory. In January, 1902,[2] a paper was published on the Advisability of Removing the Appendix Vermiformis after Suppuration caused by Appendicitis, and removal was strongly advocated, instances being given of recurrence of inflammation, localised suppuration, and even spreading peritonitis, some time after the primary abscess had closed and things quieted down. There could be little doubt even then that the statements of those who considered a localised suppuration "practically destroyed" the appendix were founded upon theory and not upon a practical knowledge of the subject, but it was not until experience had convinced surgeons generally that that opinion was wrong that such a decided feeling in the other direction set in, so that by many the rule now followed is to remove the appendix in every case at a convenient time if it was not done when the abscess was opened.

---

[1] Practitioner, 1907, p. 747.

[2] THE LANCET, Jan. 18th, 1902, p. 143.

In the discussion at the Royal Medical and Chirurgical Society on appendicitis[3] Sir F. Treves admitted that his opinion on this subject had changed. He said: "I was at one time disposed to think that the patient who had had a perityphlitic abscess was *ipso facto* cured of his malady, and that although he might have future trouble with the abscess he need fear no other attack of definite appendicitis. Longer experience has proved that this assumption is not correct." It is hardly necessary to recapitulate some of the reasons which possessed their value in the earlier stages of the discussion and which have been put forward elsewhere.[4] It is much more to the point to produce evidence which will carry weight with the unprejudiced observer of the present time, based on clinical and pathological grounds. As time passes one hears more and more instances related of renewed attacks of disease, some of which have terminated favourably, like the first, but others, unfortunately, in a fatal peritonitis. In fact, it may be at once stated that no patient is safe after an abscess of this kind until his appendix has been removed. No one can expect a patient with such extensive mischief as that invariably shown in the instances in which the pathological condition is described to escape further trouble. Such expectation would be against common sense. The outburst may not come immediately but it will come sooner or later.

It would be possible to bring forward many authenticated clinical accounts of cases in the practice of other surgeons in which recurrence of disease took place after abscess, but I am anxious to contribute independent evidence. In a series of cases brought before the Royal Medical and Chirurgical Society[5] there were several in which a return of symptoms was recorded. Amongst those now given, the number of these is proportionally much less because the appendix was removed whenever it was possible to obtain permission without waiting for symptoms.

The objections which have been put forward against removal in a quiet period after closure of the abscess are mainly two: (1) The operation is difficult and therefore dangerous; and (2) the cases in which it is required are few, because the appendix is obliterated by the process of destruction to which the suppuration and subsequent contraction have exposed it.

1. In answer to the first objection, it may be pointed out that not one of the cases in which this was done terminated fatally. In few did any suppuration follow in the wound, and these were mainly cases in which a sinus existed at the time of operation; there were no other complications. No surgeon would be deterred from performing an operation which might be difficult if he thought it necessary, and after all, the question of difficulty depends more on the individual experience of the surgeon than on anything else.

2. In reply to the second objection, it may be stated that this is incorrect, for the longer one lives the more instances affording proof to the contrary are met with. Before the discussion at the Royal Medical and Chirurgical Society the evidence as to the advisability of removal of the appendix in the class of case under discussion had been principally insisted upon by myself, and evidence chiefly depended on clinical facts. These, weighty and numerous, convinced many as increasing experience showed their true value. At that discussion I gave a description of the pathological condition of the appendix as met with, when removed in the circumstances now under consideration. In this paper further addition is made to that evidence. The condition of the appendix is not described in detail, as that would occupy too much space. Neither is any special attention drawn to complications which had resulted from the severity of the local inflammation. The pathological condition was found *to be as follows*:—

A. When the symptoms of appendicitis recurred or another abscess formed. Showing signs of recent inflammation, 1; chronic inflammation with scars of old perforation, 1; concretion and old perforation, 1; kinked, 1; kinked and adherent, 1; kinked, strictured, with scars of old perforations, 3; strictured, 2; strictured with retained concretions, 1; very adherent, strictured, old perforation, 1; universally thickened, stricture, scars of two perforations, concretions, 1.

B. Sinus formation after treatment of abscess. Chronic inflammation with close adhesions, 1; with old perforation, 1; recent perforation, 1; stricture, 1; stricture, concretion, old perforation, 1; very adherent, stricture, old perforation, 1.

C. Removal during a later peritonitis, the earlier abscess treated elsewhere. Recent perforation, 2; in one with a concretion.

D. Removal when no symptoms have arisen since the closure of the abscess. Marked chronic inflammation, 5; chronic inflammation with old perforation, 4; old perforation, 5; kinked, stricture, concretion, 1; kinked, stricture, perforation, 2; stricture, old perforation, 8; stricture, 9; doubled on itself, 1; contained thread worm, 1.

E. Removal after definite rupture into bowel. Marked chronic inflammation, 2; with old perforation at tip, 1; stricture, 1; kinked, stricture, recent perforation, 1; concretion, recent perforation, 1.

F. Removal during operation for evacuation of pus. Recent inflammation, 2, with recent perforation, 3, with concretion, 1. Chronic inflammation, 4. Stricture, 1; with recent perforation, 2. Gangrenous ulceration and perforation, 2.

G. Spontaneous rupture of abscess into peritoneum. Stricture, 2; gangrenous perforation with concretion, 2. In one fatal case, appendix long, curled on itself, acute inflammation with slough.

H. In some fatal cases in which the appendix had not been removed during life. Partial slough, 1; sloughed away with part of cæcum, 1; chronic inflammation, 1; concretion removed at operation.

In two cases the appendix was excised because of intermitting attacks of pain, not of inflammatory nature so far as could be ascertained. In one of these (a female, aged 65 years) an abscess had been opened seven years before and at the operation the appendix was atrophied but there were numerous adhesions of omentum to the right side of the pelvis, amongst which was a curiously shaped, oblong, ovarian dermoid, with a bony casing. In the second there was a strictured appendix and a concretion, associated with a suppurating ovarian cyst. It is evident, therefore, that the pathological condition of the appendix is quite as serious and as much a source of danger when it is apparently quiet and not yet producing symptoms as when it has already caused a recrudescence of inflammation. It is only necessary to compare the above lists together to appreciate this fact.

Statistics given as to the percentage of recurrence of trouble are of no value, as it is difficult to keep in touch with patients, some of whom would not return to the same surgeon or hospital if again ill. Also, a return of symptoms may take place any day during the life of the patient. Some have said that the finding of a concretion in the pus of an abscess is a sign that the cause of disease has been eliminated; this is wrong. In 20 cases fæcal concretions were found when the appendix was excised, in six cases concretions were found in the pus when the abscess was opened; in one it was the cause of a sinus which quickly healed after its removal. In one where a concretion was found in the pus the patient was readmitted later with renewed signs of inflammation and the appendix removed. In another a concretion was present in the pus of the abscess and another in the appendix when it was removed at a later date, whilst in two instances concretions were found outside the appendix when it was excised some time after the closure of the abscess. In many instances the second operation, that for the removal of the appendix, has fully justified itself by demonstrating the existence of a twisted, kinked, or strictured appendix. The finding of a concretion in the abscess is a proof of the nature of the abscess, if that is required, but it by no means follows that there is not another concretion in the appendix or that the perforation through which it has escaped will heal. There is always something besides the perforation, such as stricture or chronic inflammation.

---

[3] Transactions of the Royal Medical and Chirurgical Society, 1905 p. 445.

[4] Battle and Corner: The Surgical Diseases of the Appendix Vermiformis, &c., p. 96.

[5] Vol. lxxxviii., 1905.

The treatment employed in these cases, which include all that have a bearing on the condition of the appendix, was as follows. In 36 the appendix was afterwards removed at a time selected although there was no return of symptoms. In 24 there was a return or persistence of symptoms and the appendix was removed (appendicitis 8, abscess 6, sinus 6, peritonitis 2, iliac pain 2). In two the appendix was removed at the time of operation for spontaneous rupture of abscess into the peritoneum. In two it was removed at a second operation after this accident. In two other instances the patients did not recover after operation for this accident. In 14 the abscess was opened and the appendix removed at the time; one was in the sac of an inguinal hernia. Of these, two men died: one aged 57 years from cardiac seizure on the fifth day, and one aged 45 years from peritonitis on the second day. Even in cases when the appendix has come away as a slough there may be a stump left with a stricture in it and some mucous membrane beyond with power of secretion. This is as dangerous as an imperfectly removed appendix. The ages of the patients varied from three to 65 years. In no case in which secondary excision of the appendix was practised did any fatality occur. Localised suppuration in the wound occurred after operation for sinus on two occasions, and after secondary excision in clean cases, to a limited extent, three times. In one of them the remains of an abscess communicated with the cæcum at a spot where the peritoneum had been destroyed and it was necessary to arrange for drainage in case the suturing gave in the softened tissue; this it did, a fæcal sinus forming on the tenth day. In two the operation was performed through the scars of direct incisions made for the evacuation of pus by other surgeons; the abdominal wall was then (at the same operation) sutured in layers and a hernial protrusion cured.

The operation by displacement of the rectus after incision of the anterior part of its sheath, followed by section of the posterior part of the sheath, fulfils extremely well the requirements of these cases. It enables us to approach the seat of trouble at a point where there are few, if any, adhesions of the underlying structures; it permits of a thorough inspection of the area involved, which can be fully isolated before the appendix is touched, and the opening can be made as large as required without weakening the abdominal wall in later life. Its safety has been demonstrated in the above series of cases, and very many others; it never proved inadequate. This method of operation which I introduced to the profession several years ago is founded on the peculiarities of the anatomical arrangement of the muscles on the lateral aspect of the abdomen. It may be taken for practical purposes that the inner three-fifths of the distance between the anterior superior spine and the umbilicus is covered by the rectus muscle, that muscle extending much farther outwards than is generally recognised. The distance from the anterior superior spine to the outer margin of the rectus is really only about two inches; the total distance averages five and a half inches from the umbilicus to the anterior superior spine. To the outer side of the sheath, space is very limited unless muscular fibre is divided or torn. Incision of the sheath with displacement of the rectus gives a space which can be made of any desirable length without division of muscle, and leaves a solid living barrier across a line which would otherwise possess weakness. An incision is made through the skin and subcutaneous tissues down to the sheath of the rectus; this section is made obliquely downwards midway between the anterior superior spine and the umbilicus (and is not therefore over the line of the linea semilunaris, as stated erroneously by Messrs. Kelly and Hurdon, "The Vermiform Appendix and its Diseases," p. 534); is about four inches in length, varying with the deposit of fat in the abdominal wall of the individual, and is placed so that it is equally extended above and below the line. The outer margin of the rectus sheath can now be easily defined and during inspiration the direction of the pull of the aponeurosis of the external oblique muscle seen. The inner margin of the wound is retracted about half an inch and the anterior sheath of the rectus opened close to this retracted inner margin for the full extent of the incision. The rectus muscle is now drawn inwards, being separated from the outer part of the sheath with a few touches of the knife. Occasionally one of the lineæ transversæ requires to be separated from the sheath. An anatomical point of importance is the level of the transversalis fascia as regards the wound; the posterior layer of the sheath is strengthened and it makes the hold of the sutures much firmer if the opening into the peritoneal cavity can be confined to a part covered by this fascia; this opening is frequently less than an inch in length.

After amputation of the appendix by any method considered best, the posterior layer of the sheath and peritoneum are sutured as one layer by continuous or interrupted sutures, the rectus permitted to return to its bed, and the anterior layer of the sheath and superficial structures brought together and sutured in the usual manner. It has been called the "indirect" method, but it will be found when the appendix and cæcum are lifted up that the base of the appendix comes exactly into the middle of the wound. It permits, if necessary, of free exploration and manipulation of any structure from the gall-bladder to the floor of the pelvis. Even extremely long incisions have not been followed in my practice by any weakness of the abdominal wall. In simple cases it is not necessary to divide any nerve, and it should not be done, but I have not found such section to be followed by paralysis or wasting.

The after-course of operation by this method is singularly free from local suppuration and thrombosis or embolism of distant vessels, as veins are not bruised or torn nor are muscular tissues in any way lacerated or divided. Attention must be paid to the position of the deep epigastric vessels and their possible anomalies, otherwise they may cause trouble during the application of sutures to the posterior part of the sheath. The best time for removal of the appendix after localised suppuration is when the abscess has recently closed, for then adhesions in the neighbourhood are comparatively easy to deal with, and those which threaten danger in the future can be separated. In some instances of strong adhesions between contiguous coils it has been thought best to bring the peritoneum over the raw surface after separation in order to diminish the possibility of the formation of a fresh attachment. At this time, too, the bowel has recovered its tone and will hold sutures if their insertion is necessary. The usual stay in hospital after the operation is 14 days and no abdominal belt of any kind is required.

To sum up. The treatment of perityphlitic abscess is most safely carried out in two stages: first stage, evacuation of pus and drainage; second stage, removal of the appendix.

The necessity for removal of the appendix.—The statements of those who held that the appendix was obliterated by suppuration around it were erroneous; it is never obliterated but remains the subject of gross disease which in many instances (20 out of 70) gives rise to a return of symptoms within a short period after the closure of the abscess. The lesions found in those cases in which the appendix has been removed for a return of symptoms do not differ in their character from those found when it has been removed as a matter of routine without waiting for symptoms. Compared with a series of appendices removed for recurring attacks, without evidence of suppuration, the lesions found after removal following abscess are more gross and give fewer instances of apparent recovery from disease. Removal of the appendix after closure of the abscess is a safe procedure, and is not followed by any weakness of the abdominal wall if done in the way suggested. Moreover, operation at an early date after closure of the abscess enables the surgeon to treat dangerous adhesions and deal with any pelvic disease which may complicate the condition.

Harley-street, W.

ELEMENTARY SCHOOLS AND MEDICAL CHARITIES.—As the result of the annual collection organised by the Brighton and Hove Teachers' Association in the elementary schools of those towns a sum of £100 has just been tributed among the medical charities in Brighton Hove. This is the fourth year in which these coll have been made.

A CASE OF SARCOMATOSIS OF LYMPHATIC GLANDS.

By WALTER K. HUNTER, *M.D., D.Sc. Glasg.*,
PHYSICIAN TO THE GLASGOW ROYAL INFIRMARY; LECTURER IN PRACTICE OF MEDICINE, QUEEN MARGARET COLLEGE, UNIVERSITY OF GLASGOW.

In reading over the literature dealing with diseases of lymphatic glands one cannot but be impressed with the difficulty which the authors seem to have in classifying the different morbid processes which fall to be included under this heading. No doubt this depends to a large extent on a lack of information as to the etiology of these conditions—as to whether they are simply different manifestations of the same disease, or whether each has its own specific virus producing it. But at the same time one recognises that where the specific cause is unknown the classification of disease must depend largely on a study of the symptoms and pathological anatomy that the different cases present to us. Hence it would seem of importance, if advance is to be made in our knowledge of this group of diseases, that the individual cases as they occur be carefully studied and recorded, both from the pathological as well as the clinical point of view. Disease of lymphatic glands, other than tuberculous disease, is, however, rather rare. A physician in busy practice sees few such cases in one year, and few physicians see any considerable number even in a life-time. This being so one scarce needs to offer an apology for having but one case as a contribution to the discussion.

A miner, aged 38 years, came under my care on Sept. 1st, 1906. His illness seemed to date from August, 1905, when for the first time he noticed a lump of about the size of a marble situated immediately below and behind the angle of the right jaw. In a fortnight's time this tumour had increased considerably and was then as large as a pigeon's egg. Iodine was applied over the swelling but with no apparent benefit, for it still increased in size, and other little tumours, as large as peas, could be felt in the tissues in the immediate neighbourhood. About the end of December, 1905, there was noted a swelling on the left side of the neck, similar in appearance to that on the right side, but it (the former) did not grow so rapidly as the latter. There seems to have been little constitutional disturbance and the patient was able to remain at his work, which was fairly laborious, till the end of January, 1906. Shortly after (in February) he was admitted into the Glasgow Royal Infirmary under the care of Dr. D. C. McVail. At this time there was noted to be considerable glandular enlargement on both sides of the neck but much more marked on the right. On that side there was a mass of glands extending from the mastoid process down to the clavicle and seeming to pass downwards behind that bone into the chest. The individual glands varied in size from that of a pea to that of a walnut. There was no apparent matting together and no signs of inflammation. The consistence of the glands varied, some being very dense and others more or less elastic. On the left side there was one gland situated behind and beneath the angle of the jaw as large as the largest on the right side, but the other glands on this side were not larger than peas and seemed rather deeply placed in the tissues of the neck. There was no evidence at this time of glandular enlargement elsewhere, either in the axilla, the groin, or the mediastinum, and neither liver nor spleen was enlarged. Examination of the blood showed no abnormality. The condition was diagnosed as Hodgkin's disease and the patient was treated with arsenic. While in the infirmary there was very marked improvement as regards the swelling in the neck, and when the patient was dismissed on March 23rd the tumour on the left side was scarcely noticeable, though on the right the glands were still definitely enlarged. On admission his shirt, he said, would not meet round his neck by two inches, while on dismissal it buttoned quite easily. The patient continued taking arsenic for the next two months and for the first fortnight of that time he remained very well. Subsequent to that, however, the glands again increased in size and he was readmitted to hospital in August, 1906. At this time the appearance of the neck was much the same as on admission to hospital six months previously, though the individual glands were not so moveable. There was now, however, a swelling in the roof of the mouth of the size of a gooseberry, situated at the junction of the soft and hard palate and lying slightly to the right of the middle line. It was not tender to the touch and did not affect swallowing; it had been noted since the middle of July. About this time the glands in the right axilla also began to enlarge but there was no glandular enlargement elsewhere to be made out otherwise than in the neck. Treatment with arsenic was resumed on August 4th and for the next four weeks the glands on the left side of the neck diminished considerably in size, though those on the right side seemed to remain stationary. There was little change in the tumour in the roof of the mouth.

At the beginning of September there appeared over the right pectoral region what seemed to be a subcutaneous œdema, but there were no dilated veins, and at that time no subcutaneous nodules were noted. There was, however, a slight increase in the manubrial dulness and the note in the left infraclavicular and lower interscapular regions was less resonant than at corresponding areas on the right side. The breath sound was rather feeble over both lungs. On Sept. 12th Roentgen-ray treatment was commenced, the rays being applied over the glands of the neck almost every day for a period of four weeks. As a result of this treatment there seemed an undoubted decrease in the size of the cervical tumours, but, on the other hand, the swelling in the right pectoral region seemed to increase more rapidly and ultimately small subcutaneous nodules could be made out, extending downwards as far as the right nipple. With the x ray treatment there was a great increase in the excretion of urea, as is shown by the following table:—

Average Amount of Urea excreted Daily.

For six days prior to treatment			... ...	= 350	grains.
For 1st six days after treatment commenced			...	= 450	"
" 2nd	"	"	" ...	= 518	"
" 3rd	"	"	" ...	= 741	"
" 4th	"	"	" ...	= 598	"
" 5th	"	"	" ...	= 707	"

The kind and amount of food given during the time these observations were carried out did not vary to any appreciable extent.

During the month of September the patient's general condition showed no improvement. Towards the end of the month the breathing became noisy, especially at night, and from time to time there was a certain amount of dyspnœa. The temperature, too, from about the middle of August onwards showed a distinct febrile reaction, the range of the evening temperature being from 99° to 102° F. By the beginning of October there were signs of pressure at the base of the brain in the form of a marked internal strabismus of the right eye. On Oct. 13th the patient sat up in bed and cried out that he was choking, a quantity of blood welled up from the mouth from time to time—several pints in all—the pulse failed, and shortly afterwards death supervened. The blood was examined while in hospital and the results are as follows. August 2nd, 1906: red corpuscles, 5,200,000 per cubic millimetre; white corpuscles, 6864 per cubic millimetre; and hæmoglobin, 65 per cent. Sept. 3rd: red corpuscles, 5,610,000 per cubic millimetre; white corpuscles, 7616 per cubic millimetre; and hæmoglobin, 70 per cent. Time of coagulability, seven and a half minutes. Films were examined on Sept. 7th but showed little abnormality, the red cells being normal in size and shape. Of the white cells 81 per cent. were polynuclears, 18 per cent. mononuclears, and 1 per cent. eosinophiles. The vast majority of the mononuclears were medium-sized hyaline cells, the proportion of the typical small lymphocytes being very small. The white cells were counted again on Sept. 22nd and numbered 7984 per cubic millimetre.

At the post-mortem examination, which was made by Dr. Mary B. Hannay, the whole of the neck was seen to be greatly swollen, especially on the right side. This swelling on further investigation was found to be due to a large white mass of new growth surrounding the larynx, trachea, and œsophagus. The tonsils could not be seen on account of the growth involving the soft palate and pharynx. The tongue, larynx, trachea, œsophagus, and thyroid gland all seemed normal, but lying along the trachea there were numerous enlarged isolated glands. Near the root of the lung there was a calcareous gland and one that was caseous. The lungs were emphysematous and the upper right lobe was in a.

state of grey hepatisation. The heart was flabby and its right ventricle somewhat dilated. The valve segments were normal, except for a single warty vegetation on one of the aortic cusps. On the right side of the chest extending down to the nipple there were a large number of subcutaneous nodules of about the size of slightly enlarged lymphatic glands. This same nodular condition was present on the left side of the neck. The chest wall (skin and subcutaneous tissue), especially in the region of the manubrium sterni, was greatly thickened, being about an inch in thickness, and the subcutaneous tissue was infiltrated with new growth continuous with that on the front of the neck. On examining the brain there was seen to be distinct flattening of the pons and medulla on the right side. The pituitary body was considerably enlarged. There was great swelling of the right basilar region and dorsum sellæ. The bones in these areas were soft and when cut with a knife new growth and pus exuded. There was an enlarged mass of glands in each axilla, and the glands of the groin were also slightly enlarged. The peritoneum and omentum were normal but the mesenteric glands were distinctly enlarged. The intestines seemed normal; Peyer's patches were not enlarged. The liver was large (73 ounces) and slightly fatty. The spleen was also enlarged (11 ounces) but otherwise normal. The kidneys and adrenals were normal. The marrow in the shaft of the femur was red.

On microscopic examination the tumour mass was found to be a large round-celled sarcoma; the same structure was found in tissue taken from the neck, from the roof of the mouth, the pituitary body, from the muscle of the anterior chest wall, and from a bronchial gland. In a mesenteric gland examined there was a certain amount of fibrosis but the appearances otherwise were normal. Peyer's patches were likewise normal. The axillary glands were not examined. The spleen, pancreas, and suprarenals were normal. The kidneys showed some slight parenchymatous nephritis. The marrow from the shaft of the femur had the structure of an ordinary active marrow but there was no sign of tumour growth. The marrow from one of the ribs was normal.

This case, then, would seem to have a clinical as well as a pathological interest. For the first 12 months after the appearance of the swelling in the neck the symptoms were entirely those of Hodgkin's disease, though one recognises that the glandular enlargement was less widespread and more definitely confined to the cervical region than is commonly met with in that condition. Still, there was nothing during these months to suggest that the growth was extending through the capsules of the glands to the tissues round about. The great improvement, too, on administration of arsenic is such as one sees in Hodgkin's disease. It may be insisted that examination of the blood showed no relative lymphocytosis, which is said by Pinkus[1] to be characteristic of pseudo-leukæmia. But, on the other hand, a study[2] of the blood counts in several series of cases makes it extremely doubtful if such a lymphocytosis does exist in this disease, or, indeed, if there is any constant and characteristic change in the blood. However, with the appearance of the swelling in the roof of the mouth, and especially with the infiltration of the pectoral region, it was apparent that the diagnosis had to be reconsidered. But it did not seem impossible that the case had originally been one of Hodgkin's disease which later had become sarcomatous. Pinkus[3] says it is not rare to find a lymphosarcoma grafted on to an already existing lymphomatosis (pseudo-leukæmia, Hodgkin's disease). Here, however, it must be pointed out that there is some confusion regarding the use of these names, for there are apparently two distinct pathological conditions included under the term pseudo-leukæmia or Hodgkin's disease. In the one (leukæmic type) the histological structure of the enlarged gland is exactly the same as in lymphatic leukæmia—i.e., there is a "hyperplasia" of the lymphoid elements of the gland. Such cases might therefore be best regarded as cases of lymphatic leukæmia without increase of lymphocytes in the blood. In the other type (fibrous type) the change affects the reticulum of the gland, and as the gland becomes more and more fibrous, the lymphoid elements become less conspicuous, and may ultimately almost entirely disappear. The process is, therefore, not a hyperplasia of the lymphoid elements as in the first type, but an atrophy of these, with a hyperplasia of what are probably stroma cells (large cells with irregular ragged cell-body composed of indefinitely granular protoplasm and with a large sharply outlined vesicular nucleus, sometimes round but more often kidney shaped).[4] Pinkus would only include the former of these two types under the term pseudo-leukæmia, while the latter he regards as an entirely different condition, as being, indeed, a special form of tuberculosis of lymphatic glands. And when he speaks of lymphosarcoma being grafted on to pseudo-leukæmia he refers to the leukæmic type of that disease.

That the glands in lymphatic leukæmia (or pseudo-leukæmia) should take on a lymphosarcomatous character is readily understood, for the structure of the lymphosarcoma is very similar to that of the glands in lymphatic leukæmia, and it may be a matter of difficulty to distinguish the one from the other histologically. In the former the growth tends to go through the capsule of the gland and invade adjacent tissue, while in the latter such is supposed not to occur, though cases, which histologically were shown to be leukæmia, have been described where the capsules of the gland were not respected by the lymphoid cells and where the growth had in this respect a close resemblance to lymphosarcoma. In this connexion we might note that Banti[5] regards lymphatic leukæmia as a sarcomatosis, the involvement of the capsule of the gland being but a stage in the progress of the disease.

It is probably, then, only the first (leukæmic) type of glandular enlargement in Hodgkin's disease that takes on a lymphosarcomatous growth; and certainly one would not look for lymphosarcoma developing in the second type, where the tendency is rather to destruction of lymphoid elements by the overgrowth of the stroma tissue. The case, however, which I have recorded was not a lymphosarcoma but a large-celled sarcoma—i.e., an overgrowth of stroma cell rather than lymphoid cell—but whether or not it commenced as a Hodgkin's disease (of the fibroid type) is now impossible to say. If the glands first affected showed originally this change it had been entirely obliterated by the sarcomatous growth, and the glands that are in the process of being invaded by sarcomatous growth show no sign of fibrosis; they are, indeed, apparently normal glands invaded by a large round-celled sarcoma. So that if the sarcomatous process started primarily from glands affected with a chronic fibrosis (Hodgkin's disease) it advanced to normal glands as a sarcoma pure and simple. While confined to the glands the mode of growth was more that of a Hodgkin's disease in that it involved adjacent glands—those of both sides of the neck and in the axillæ—before the surrounding tissues became infiltrated. But when once the limits of the glands were passed the growth was by continuity, extending in various directions and infiltrating and destroying adjacent tissue. There were no metastases, though carefully looked for at the post-mortem examination.

It might, of course, be suggested that the primary lesion in this case was not in a gland but in the connective tissue somewhere about the pharynx, with secondary involvement of glands. If that were so the primary lesion must have been of very slow growth, as there was no sign of the existence of such a growth within 12 months of the time the enlarged glands were visible.

What may be the relationship of the second (fibroid) type of Hodgkin's disease and sarcoma is a question difficult to answer. As we have already seen, Banti maintains that lymphatic leukæmia and pseudo-leukæmia (leukæmic type) are the same disease and of the nature of a sarcomatosis. The increase of the adenoid tissue throughout the body in these conditions is therefore neoplastic and not hyperplastic. Now if there is any truth in this it should be equally true for the second (fibroid) type of pseudo-leukæmia, where the diseased process is essentially one of connective tissue cells. And this type of growth has its own malignancy in the form of metastases in the spleen, liver, and other organs, these secondary growths always repeating the fibroid structure of the primary lesion. MacCallum[6] has recently recorded two cases of this fibroid form of pseudo-leukæmia where the lungs were invaded by extension from the bronchial glands, the growth having broken through the capsule of the gland and producing a diffuse infiltration of the lung with this tumour-like tissue. Such cases would seem to show some affinity with the true sarcoma and they at least suggest a neoplastic rather than a hyperplastic origin for the new growth.

---

[1] Pinkus: Nothnagel's Encyclopædia, Diseases of the Blood. Saunders Company. 1906. P. 619.

[2] Ibid. p. 619.

[3] Ibid., p. 632.

[4] Reed: Johns Hopkins Hospital Reports, 1902, vol. x., p. 133.

[5] Banti: "Leukæmia and Sarcomatosis," International Clinics, Series 16, vol. iii., 1906.

[6] MacCallum: Transactions of the Association of American Physicians vol. xxii., 1907.

In concluding, I wish to express my indebtedness to Dr. Mary Hannay for the careful histological examination which she has made of the tissues in this case, and to Professor Robert Muir who has been kind enough to examine the sections and who confirms the statements regarding the nature of the tumour growth.

Glasgow.

THE PREMONITORY SIGNS OF ARTERIO-SCLEROSIS.

By ALFRED S. GUBB, M.D. PARIS, M.R.C.S. ENG., L.R.C.P. LOND.

ONE hears a good deal about arterio-sclerosis nowadays, and although the meaning of the term is clear enough as indicating a particular morbid tendency the descriptions given of its manifestations vary so greatly that it becomes difficult to form a concrete idea of its clinical significance. Arterio-sclerosis is conceded to be a common condition, examples thereof coming under one's notice daily; in fact, it is stated to be one of the commonest causes of death after middle age, so that the more we know about it the better, especially in view of the fact that if diagnosed before irreparable mischief has been caused its effects may be greatly attenuated and its progress almost indefinitely delayed by appropriate treatment, including diet, medication, and modified habits of life.

Arterio-sclerosis is not "one and indivisible," in the sense that it practically never involves all the arteries to the same extent but weighs especially on individual systems—renal, cerebral, cardiac, hepatic, &c.—creating a morbid state the manifestations whereof vary according to the region involved. We see a good deal of arterio-sclerosis at thermal stations, usually at a sufficiently advanced period for it to be productive of more or less grave physiological disturbance, a period at which, indeed, it is much more interesting from a clinical than from a therapeutical point of view. One only regrets not having had the opportunity of intervening at an earlier date, at a time when it would have been possible to avert, or at any rate to postpone, the structural changes that have thrown the organism out of gear. This fact emphasises the importance of an early recognition of the changes generically described as arterio-sclerosis, which with due attention would be possible.

The tendency to arterio-sclerosis is markedly influenced by heredity, although it can be acquired by certain habits of life. We find that a large proportion of these subjects are the offspring of arthritic or gouty parents who have succumbed to renal, cardiac, or cerebral arterio-sclerosis, and in these the premonitory signs of the degeneration may be observed quite early in life in the form of attacks of epistaxis, migraine, premature baldness, &c. The initial symptoms are such as one would expect to result from slight variable disturbances of this or that local circulation due to changes in the walls of the vessels that interfere with the automatic regulation of the circulation. Any accidental strain thrown on the damaged organ or system accentuates these disturbances and renders them for the time being more prominent. The constitutional symptoms comprise a slackening of the intellectual powers with inability to concentrate the attention and diminished energy for work. The subject is rapidly fatigued and if the effort be maintained headache and exhaustion follow. This tendency to fatigue is visible in the drawn features and psychical depression; in fact, we get a condition which might clinically be described as neurasthenia. Under stress of excitement or physical fatigue there may even be temporary amnesia or disturbance of articulation. This state is associated with a peculiar sensitiveness to the action of alcohol and tobacco which even in reduced quantities give rise to distressing sensations that worry the patient and render him morbidly irritable. Irritability of temper is a fairly constant manifestation, especially as the victim sooner or later becomes aware that his judgment is not as sound as it used to be, that self-control is lessened, and that the burden of responsibility weighs more heavily upon him. Persons naturally vivacious become somnolent or apathetic. More or less persistent headache is a common feature in the early stages of arterio-sclerosis. Already noticeable on awakening in the morning it is apt to get worse as the hours go by and ere the day's work is over it may assume a throbbing character. It is specially apt to be caused or intensified by intellectual effort, by alcohol, or by excitement of any kind. The significance of headache as a manifestation of arterio-sclerosis can obviously only be determined by a process of exclusion, seeing that it is common to so many other morbid conditions.

Sensory disturbances in one form or another are fairly constant. They may take the form of neuralgia: intercostal, facial, &c., or the patient may complain of tingling or numbness in the limbs, associated or not with slight evanescent paresis of an arm or a leg, such paresis being sometimes accompanied by pain without tenderness in the whole limb. Of all the premonitory signs of arterio-sclerosis *quâ* atheroma giddiness is, perhaps, the most constant and characteristic. Although characteristic, the giddiness only possesses clinical significance when of daily occurrence. It may be occasioned by mere change of position, more particularly from the recumbent to the erect, and in its slight early form it may not amount to more than a feeling of hesitation, a mere lack of stability with a tendency for things to "swim" associated with some mental anxiety. Inasmuch as this instability is not infrequently associated with singing and other musical noises in the ears, it is necessary to eliminate the possibility of the symptoms being due to Ménière's disease or other affection of the auditory apparatus. It may be remarked, indeed, in respect of the pleiades of premonitory signs of arterio-sclerosis that they are only of importance when after careful investigation no other explanation is forthcoming of their presence, since none of them is absolutely pathognomonic of the condition in its early stage.

Disturbances of sleep are common, although genuine insomnia is the exception. Sleep is uneasy, less deep, and consequently less refreshing than formerly. The subject has to coax somnolence and resorts to various devices with that object in view. Then, too, he is morbidly sensitive to the action of stimulants, especially tobacco and champagne, and exciting emotions, whether pleasant or the reverse. This sensitiveness to tobacco, coffee, tea, &c., in persons previously accustomed to unfettered indulgence therein is very suggestive and should excite suspicion.

Mental depression *quâ* neurasthenia is always present in some degree. It may be the direct, immediate result of the disturbance of cerebral circulation or it may be consequent upon the wearying influence of the visceral troubles. The supervention of neurasthenia in a person between 45 and 50 years of age who has never before displayed any neurotic stigmata is highly suggestive, especially when it is characterised by permanence. The depression begotten of business worries and emotional disturbance is ephemeral, whereas that due to organic changes, though variable in degree, is naturally persistent. It may be stated in general that neurasthenia supervening in middle-aged subjects is a symptom of grave prognostic significance, but here again it is only in the absence of other obvious explanation, such as some serious organic lesion or in the initial stage of general paralysis, that it can be regarded as indicative of arterio-sclerosis; in other words, the latter is only one of the possible causes of neurasthenia in the middle-aged.

Among the slight signs that usher in arterio-sclerosis affecting the aorta Dr. Capiello of Naples calls attention to a peculiar sensation in the palm of the hand experienced when pressure is made on the radial artery to the extent of arresting pulsation. Thereupon the subject feels a "breath" or a tingling along the palmar arch. This, however, is a sign of aortic insufficiency rather than of arterio-sclerosis pure and simple, and is therefore only obtainable at an advanced stage. A simple way of determining the existence of general arterio-sclerosis is by estimating what French physiologists call the "stability" of the pulse. Under normal conditions the pulse-rate is eight or ten per minute higher in the erect than in the recumbent position, and when observation shows that such is not the case we may infer that the blood pressure is markedly above normal, while if the ratio be reversed it may be taken as proved that not only is the arterial pressure unduly high but that arterio-sclerosis has reached the stage of giving rise to definite organic disease, an assumption which is confirmed should we find that the heart apex is displaced to the left.

Exaggerated arterial tension with a small, hard, thready but regular pulse is a recognised sign of confirmed arterio-sclerosis, but in minor degrees it also constitutes an early premonitory sign; indeed, some weighty authorities believe that actual changes in the arterial walls are preceded by prolonged exposure to the ill-effects of persistent high pressure, what Huchard calls the præsclerous period, such hypertension being due to spasmodic contraction of the arterioles probably dependent on toxic irritation of the vaso-motor system. High arterial tension, it is true, is commonly associated with chronic renal lesions, but the presence of the latter by no means excludes the possibility of the mischief being due to arterio-sclerosis; indeed, the renal lesion may be, and often is, due to local arterio-sclerosis. When in addition to an abnormally high blood pressure we get some of the other signs just mentioned there is a strong presumption in favour of the existence of arterio-sclerosis.

Aix-les-Bains, Savoie.

A CONSIDERATION OF THE STATE OF THE AUTONOMIC NERVOUS SYSTEM IN ACUTE SURGICAL CONDITIONS.*

BY ALBERT J. WALTON, F.R.C.S. ENG., L.R.C.P. LOND., M.B., B.S., B.SC. LOND.,
SURGICAL REGISTRAR, LONDON HOSPITAL.

(Concluded from p. 25.)

Injection of fluids.—The injection of fluids is useful in all these cases of lowered blood pressure. It acts mechanically by increasing the amount of fluid in the circulation. It is specially useful in all cases of shock, for here not only is the pressure lowered by dilatation of the vessels of the splanchnic area, but in this condition there has probably been loss of fluid, not only by hæmorrhage and escape of inflammatory fluids, but probably, in the case of abdominal operations, by the evaporation of fluid from the surfaces, as shown by the increase of specific gravity of the blood. At the same time the abnormal viscosity of the blood is, by the increase of fluid, decreased to normal, and the circulation thus aided. The main methods of its administration have been considered in the treatment with suprarenal extract, and of these the continuous rectal infusion proves to be the most satisfactory and the most readily worked. One other method may be used, and that is the introduction of one or more pints into the peritoneal cavity during the course of the operation; not only does this cause an immediate rise of blood pressure, but it has been proved to lead to a marked leucocytosis, which, in a condition of general peritonitis, is greatly to be desired. It must be remembered that this method of treatment may be readily overdone, and, after its re-introduction by Mayo Robson in 1893, there was a tendency to administer it in too large quantities—up to a few years ago from 10 to 12 pints were often administered. If such be done there is a great likelihood of death being caused by œdema of the lungs. It may be stated that, by intravenous methods, not more than three pints should ever be given, and by continuous rectal infusion not more than from five to eight pints. By the rectal method much less harm is likely to be done, for when the normal pressure is reached the excess of fluid is returned and no more is absorbed. Even should it be absorbed, time is given for its excretion to take place by the kidneys.

Mechanical methods.—But little further need be said concerning these; most of the methods have already been considered under the heading of preventive treatment, but, in addition to these, considerable benefit may be derived from the position of the patient. By raising the foot end of the bed 18 inches to 2 feet in a kind of inverted Fowler's position the blood is mechanically tilted out of the portal system to the heart and brain. This position is especially useful, as it aids considerably in the retention and absorption of fluid administered by the rectum. It is, however, sometimes difficult to determine what course to adopt in cases of acute peritonitis. In them the septic condition is often localised to the pelvis or lower part of the abdomen and thus it is desirable to have the patient placed with the head raised (Fowler's position), so as to aid drainage and to prevent the spread of the sepsis upwards. It must be remembered that such drainage must be brought about early, for after about 24 hours it is no longer possible to alter the site of the fluid by changing the position of the patient owing to the formation of adhesions. The general condition must largely influence one in determining the method to be adopted. If the shock is the most marked factor the patient should be placed with the head down; if not, in the Fowler's position. In doubtful cases it is often best to place him in the first position for two or three hours, then to lower him until he is horizontal; after a few more hours he may be placed in Fowler's position.

Summary of Treatment.

Whenever preventive treatment is possible everything should be done to perfect the patient's general condition; no powerful purgatives should be given, and light, easily assimilated diet should be administered to within a few hours of operation. Throughout the course of the operation and for some hours afterwards blood pressure tracings should be taken; without their aid the patient's condition may not be readily recognised until it has become serious, while if a careful record be kept not only are the slightest variations made visible but the patient's reaction to the various steps in the operation or to any curative measures is readily estimated. They can easily be taken at the wrist without, in the majority of cases, in any way interfering with the surgeon. In any large hospital this duty may be undertaken by a dresser. The methods of taking a reading are easily learnt and may be quickly performed, and many of the after-operation records may be safely left in the hands of an intelligent nurse. As regards the anæsthetic in such cases ether should be always chosen if possible. If this cannot be done and the operation required is one below the diaphragm spinal anæsthesia is by far the best method. Chloroform should be used as seldom as possible. In head operations a quarter of a grain of morphine as a preliminary lessens the shock and allows of less anæsthetic being given.

In operations upon the extremities a great future seems to lie in the use of Crile's pneumatic suit, and one would like to see it brought into far more general use; with it the blood pressure can be perfectly controlled and shock almost completely prevented. In operations upon the abdomen it may be used on the limbs but with less chance of success.

In no case should any form of stimulant, either brandy, strychnine, or ether, be administered previous to, or during the course of, an operation. This is a matter upon which much stress should be laid, for at present it is so often the case that as soon as any signs of shock develop the patient is given 1-60th of a grain of strychnine hypodermically; if the condition does not improve a second 1-60th of a grain is given shortly afterwards. If the centres are not entirely exhausted by this time he is returned to bed and a 1-60th combined with brandy is given until they are. Nothing can be more likely to bring about the very condition one wishes to avoid.

If signs of shock begin to develop, as shown by the fall in pressure, 15 minims of the B.P. hypodermic injection of ergot should be given, which may be repeated after its effects begin to fail, which will probably be in about 20 minutes. If the fall continues in spite of it a vein should be opened and the patient infused; for this purpose one drachm of the liquid extract of suprarenal (adrenalin) to one pint of saline solution should be used. If the operation be an abdominal one, saline solution may be poured into the peritoneal cavity, but in the majority of cases this will be unnecessary.

During the course of operation a 2 to 4 per cent. solution of cocaine should be injected into any large nerve before it is divided, and exposure or handling of deep-seated organs, especially the abdominal viscera, should be avoided as much as possible. The temperature of the operating theatre should be kept warm but not sufficiently hot to cause excessive sweating of the patient. After the operation is completed a tight abdominal binder should be applied so as to contract the splanchnic area as much as possible. When the patient has been returned to bed the following method may be carried out by routine provided none of its steps have had to be undertaken during the course of the operation. The patient is immediately given a quarter of a grain of morphine, so that on recovering from the effects of the anæsthetic the pain will not be appreciated by the controlling centres. At the same time the foot of the bed is raised about 1½ to 2 feet higher than the head end. 15 minims of ergot are now injected subcutaneously while the saline solution and suprarenal extract for continuous injection by the rectum are being prepared. As soon as possible this is commenced, being administered by the method previously described and allowed to run continuously at the rate of one pint per hour until either the fluid is rejected or five to six pints have been administered. If the case be a septic peritonitis the foot of the bed is lowered after two or three hours, and after a further two or three hours the head is raised.

---

* A paper read before the London Hospital Medical Society. (The superior figures refer to the bibliography at the end of the article.)

The difference in the results gained by this method and those where stimulants are alone given is most marked clinically, and the different bearings of the two upon the blood pressure, and consequently upon the condition of shock, are well shown in the previous figures.

2. CHANGES IN THE LOCAL NERVOUS SYSTEM OF THE INTESTINES.

Just as multiple afferent impulses to the centres governing the muscular apparatus of the vessels cause their exhaustion with loss of tone to the vessels and consequent dilatation, so also multiple impulses from the intestines cause exhaustion of that apparatus governing the muscular movements of their walls with consequent paralysis of these walls and apparent obstruction. These impulses may arise in the gut itself before operation when they are probably toxic in nature. Such a condition is well seen in acute localised or general peritonitis, which, in the majority of cases, is associated with loss of tone and dilatation of the intestinal canal, as shown by obstinate constipation. In other cases operation, with its associated and necessary trauma, seems to be the causative factor, and cases arise after operation where symptoms of dilatation of the intestines are presented, the so-called "ileus" or "peritonism," which may proceed to the death of the patient, and where post-mortem, on the most careful examination, not the slightest evidence of either peritonitis or obstruction can be discovered. The pathology of such a condition has been but little understood and its very existence has been doubted, some even suggesting that it has rather been an excuse for death given by the surgeon, who does not wish peritonitis or other complications to occur. But that such a state does exist I have no doubt. I have now either personally carried out, or seen performed, post-mortem examinations on several cases, operated on by different surgeons, where clinically the condition has closely resembled acute peritonitis associated with dilatation and paralysis of the intestine, and yet post mortem nothing of this nature could be discovered. The small intestine was greatly dilated, but on tracing down this dilated part no evidence of obstruction was found, even where the dilatation ceased abruptly.

Cases throwing light upon this condition are those of certain nervous diseases, such as disseminated sclerosis. Here the patient may be seized with all the signs of acute intestinal obstruction, but at operation no organic lesion is found. They may even go on to death, and at the post-mortem examination no lesion of any sort that would account for the symptoms may be discernible. The following is such a case. I have to thank Dr. L. A. Smith for permission to publish it.

The patient, aged 18 years, had been attending hospital several times with disseminated sclerosis, which had lasted for five years. He was admitted complaining of abdominal pain and absolute constipation, which had been present for the last two days. Since the onset he had vomited eight times. There was marked spasticity of the legs, with increased reflexes. There were rather coarse irregular tremors of the hands and a slight lateral nystagmus. The speech appeared to be normal. The pulse was 114. The abdomen was considerably distended but was not rigid. No peristaltic waves were seen and there was no area of marked tenderness. The temperature was 98° F. The tongue was dry, brown, and furred. Three enemata were followed by no result. The patient was seen by a surgeon, who decided to operate. An opening was made in the mid line about three inches in length and below the umbilicus. The small intestines were markedly distended but the walls were not injected. There was no excess of fluid and no evidence of obstruction could be found. The abdominal wound was sewn up. No result followed the administration of strychnine hypodermically, with calomel and sulphates by the mouth, with several enemata. The patient died 12 hours after operation. Post mortem the intestines were found to be distended but there was no evidence of obstruction of any sort, the lumen of the gut being perfectly clear. Beyond a little adhesive peritonitis around the wound nothing could be discovered locally to account for the condition.

Physiology of peristalsis.—In the normal intestines movements of two kinds occur. Firstly, swaying pendulum movements, which, according to Bayliss and Starling, are myogenic in origin and are but little concerned in the onward movements of the intestinal contents. The second variety, or true peristaltic movements, consist of a slowly moving ring of contraction, which is immediately preceded by a zone of dilatation, the whole passing down the gut from above. At times the ring of contraction does not take place behind the mass of food but in the centre or other parts, so that the mass is divided into two or more portions—segmentation movements; the areas thus formed may unite again from relaxation of the ring of contraction to form a continuous mass (Cannon).[8] These movements are independent of all central nervous control and take place as readily, if not better, after all the extrinsic nervous connexions have been divided. From this it may be assumed that they are either myotonic or due to the influence of some local nervous centres. If cocaine and nicotine, which are known to paralyse all nerve cells, be applied to the intestines all peristalsis stops, and although it can be induced by local stimulation it cannot be propagated. If now a portion of intestine be excised, turned round and sutured into position so that what was formerly the upper end is now lowest, it is found that all peristaltic movement is stopped at this point, a functional obstruction having been caused, although the lumen is perfectly clear. This point is of considerable importance in operative work upon the intestines, for it is probably the factor chiefly concerned in the persistence or origin of obstructive symptoms after a lateral anastomosis has been formed which is not isoperistaltic.

From these experiments it has been deduced that the peristalsis is dependent upon the influence of some local nerve plexus, and that of Auerbach is the one which is usually selected for this honour. The central nervous system, however, exercises some control, for if the splanchnic nerves be cut it is found that the movements are augmented, whilst if the peripheral ends of these nerves be stimulated peristalsis is decreased or arrested. On the other hand, stimulation of the peripheral end of the vagus increases them.

The recent researches of Hertz[9] have shown that the rate of peristalsis is such that in the normal state the food usually takes about four hours to reach the cæcum, but under abnormal conditions this may be much altered. On reaching the ileo-cæcal valve a slight stop occurs. Keith suggested, on anatomical grounds, that a true sphincter existed at this point, and Elliott[10] has since proved that such a sphincter does exist here, the action of which is controlled by the splanchnic nerves; when these are cut it becomes permanently relaxed and food passes regularly through.

Jacobi[11] has shown that in the large intestine the movements are precisely similar to those in the small intestine, with the exception that antiperistaltic waves are much more marked. The peristaltic waves are much slower in their progress; thus Hertz[9] has found that about four and a half hours usually elapse while the food passes from the cæcum to the sigmoid flexure. During sleep the movements are even slower. In the large intestine the lumbar and sacral nerves (second, third, and fourth) take the place of the vagus and splanchnics. Thus movements of the intestine are started by some local stimulation applied to the mucous membrane, and are propagated by the control of a local nervous mechanism which may be regarded as the plexus of Auerbach.

The question now arises, What causes the abeyance of these movements in a condition of peritonism? On this point two important pieces of work have been done. Pawlow has shown that all movements of the intestine are markedly decreased by stimulation of many sensory nerves, and may indeed be completely inhibited by this means. From our present point of view this is of considerable interest, for we have both the dilatation of vessels in shock and the loss of peristalsis, which is the cause of dilatation of the intestines, set up by a similar cause—namely, excessive sensory stimulation.

Cannon and Murphy[12] have shown that peristalsis in the rabbit, as shown by movements of bismuth recorded on the screen, is not affected by prolonged etherisation, exposure to the air, or cooling of the intestines. But a very marked delay occurs after all manipulation.

From these experiments I would suggest that we have here a process exactly similar to that concerned in shock. Just as primary stimulation of a sensory nerve causes a rise in blood pressure, so peristaltic movements under normal conditions are initiated by some local stimulation, usually a mass of food within the lumen of the gut, and just as prolonged stimulation of the sensory nerves leads to exhaustion of the vaso-motor centres with a subsequent fall of blood pressure, so prolonged stimulation of the gut caused by surgical manipulation leads to exhaustion of the local centres situated in Auerbach's plexus, with failure of propagation of all peristaltic waves and the onset of ileus.

Another factor, and one which is more marked in those cases where paralytic distension of the gut occurs before operation, as in acute general peritonitis, is the effect of toxins upon the local centres. It has been shown experimentally that peristaltic waves are inhibited by any toxic state of the peritoneum, and indeed such is well known clinically, the toxin in this case having the same effect upon the local centres as it does upon the vaso-motor centres in producing shock.

Treatment.

Two distinct classes of case have to be considered. Firstly, those in which, before operation is undertaken, the cause of the condition, usually toxic in nature, has been present, and where at operation, although no obstruction be present, yet the intestine is found to be considerably dilated. Secondly, those in which some abdominal operation has been undertaken, and later symptoms of intestinal obstruction intervene, yet there is reason to believe that no obstructive lesion is present and that no peritonitis has occurred.

In the first class of case the treatment will in the great majority be operative. Excluding those rarer cases, such as the one already described, where the condition is due to some previously existing nervous disease, the state of the intestines is dependent upon some locally acting cause, such as acute peritonitis, which will usually call for operation. The abdomen having been opened the peritoneum is dealt with by the method preferred by the individual surgeon, either simply drained or washed out. If the intestines are found to be greatly distended they also must be drained; the presence of their toxic contents is largely accountable for the condition of paralysis of the gut wall and is also seriously affecting the patient's general condition. If there be any organic obstruction it is one of the rules of abdominal surgery that the abdomen should not be closed until the intestines have been emptied. In the same way, if the obstruction be only paralytic in nature there is a much greater likelihood of their return to a normal condition if the cause has been previously removed. This may be brought about by simple puncture of a coil of gut over a receiver but by this means it will, as a rule, only be found possible to empty one or at most two coils of gut. The method introduced by Moynihan[13] for emptying the gut in cases of acute obstruction will be found to be the most serviceable. A glass tube eight inches long has a rubber tube attached at one end, the other is cut obliquely; this end is passed through a small opening in the anti-mesenteric border of the gut, which is then threaded on to the tube; about six feet can thus be passed. As the tube is passed along the gut is, of course, emptied, the contents flowing along the rubber tube to the pail beneath. The glass tube is now removed and the opening in the gut sutured.

As regards the after-treatment in such cases many believe that no attempt should be made to empty the intestines for some days. They claim that but very few of these cases are really general peritonitis and that by keeping the intestines at rest there is much greater chance of limiting the inflammatory process. If this be correct the danger of so leaving them at rest will be very slight if they have been efficiently drained during the operation by the method given above. If, however, it be believed, as it is by many, that there is more likelihood of a successful issue if the bowels be opened as soon as possible those methods may be undertaken which will be described for the second class of case.

In the second class of case operation is not desirable. There may be marked dilatation of the gut but, as a rule, no evidence of inflammatory changes, and if the symptoms have set in soon after operation, as they usually do, there is but little probability that any band can have yet formed which has led to organic obstruction. The only question is whether any obstruction present originally has been overlooked at the primary operation; but in the majority of this type of case the primary operation was for some condition where the symptoms were very unlikely to have been due to this cause and in such it may be recognised that the subsequent symptoms are due to a paralysis of the muscular wall, due probably to the exhaustion of the local centres by the trauma which has, of necessity, been applied during the primary operation. In them some form of treatment will have to be undertaken which will overcome this condition and lead to a speedy return of the intestinal movements.

The treatment may be grouped under three main headings: the administration of drugs by the mouth, various forms of enemata, and subcutaneous injection of drugs. Other means have of late been used whereby drugs, such as magnesium sulphate in solution, have been inserted into the intestine during the operation. In some cases, where the lesion is fairly high up, this is of use, but if there be much dilatation the correct treatment will consist in emptying the intestines while the patient is on the table, while if they are not dilated the drug will either not be required or will be excreted before the symptoms of ileus make their appearance. After they have been excreted this condition may indeed be more likely to occur owing to the increased irritation caused by the presence of the drug.

Administration of drugs by the mouth.—The most usual method of treatment in abdominal cases, where early peristalsis is required, is to give the patient, after operation, calomel in one grain doses every hour for from four to six hours, the last dose being followed by some simple saline mixture, such as the sulphates of sodium and magnesium. This is usually combined with strychnine subcutaneously. Such a method of treatment is very useful in simple abdominal cases as a preventive rather than a curative measure. If, however, severe vomiting be present it of course fails in its object. Such vomiting is nearly always found in cases of ileus, and even if not, these drugs are found to fail in their action, the distension in many cases only appearing to increase. This line of treatment, moreover, labours under the disadvantage that the strychnine administered acts, as previously shown, in a most detrimental way upon the condition of shock, and thus this portion, at any rate, should be omitted.

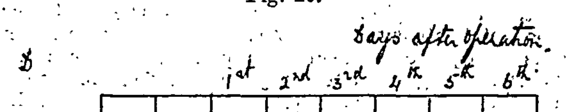
Enemata.—Of these but little need be said; their use is most advantageous and in most cases of distension the administration of a turpentine or asafœtida enema will be found to bring about speedy relief. Their use as a means of determining whether true obstruction be present or not is also invaluable. In cases of true ileus, however, they are often found to fail in their purpose, but they should certainly be combined with any other form of treatment that may be adopted. Their action is probably to stimulate the muscle of the lower gut directly and thus to increase peristalsis, but from the fact that they fail in ileus it seems probable that they are incapable of actually initiating the peristaltic wave, possibly because they do not pass up high enough to reach the true seat of the lesion.

Subcutaneous injection of drugs.—The favourite of these is *strychnine*, which is usually given in 1-60th of a grain doses four-hourly, but it is doubtful if any marked effect on the intestinal movements follows its use and for the reasons mentioned above it should not be used. The explanation of its failure to act is probably that its action is purely that of a stimulant to the exhausted centres in Auerbach's plexus and, as with the vaso-motor centres, stimulation of them, when exhausted, is not likely to be followed by any action but rather by further exhaustion. *Atropine.*—This drug acts by removing the inhibitory action of the splanchnics but in the condition of ileus the lesion is lower down, and thus it would scarcely be expected to have any marked influence. It also acts by allaying spasmodic contractions and converting them into slower, more powerful, and regular movements, and for this reason has been given in cases of mechanical obstruction

(Bosch)[17] with good results. Clinically it is found to be of no value in ileus. *Eserine salicylate.*—Recognising the seat of the lesion in this condition it seems that if a drug could be secured which, given hypodermically, would act directly upon the muscular tissue of the intestine in the same way that ergot and suprarenal act upon the vessels locally, then the intestines might be made to act until the exhaustion of the centres was overcome, and they were again capable of taking up their functions. Such a drug is present in eserine or physostigmine. The use of it for these conditions was first advocated by Arndt,[14] who administered it after operations. He injected subcutaneously 0·001 gramme and repeated this dose if necessary. He has never noticed any unpleasant effects, and has reported several successful cases. He noticed one important distinction. In several cases there was marked meteorism which was not allayed by the use of this drug. He found in these that there was gastric distension, and that eserine did not affect the movements of this viscus. If, however, the stomach were emptied, or, preferably, washed out at the same time, relief followed. A large number of cases have been treated by Vogel[16] in the same manner, and he expresses a firm belief in its efficacy. On the other hand, Pankow[15] states that it does not relieve meteorism, but he used it in all varieties of cases, and, as will be seen presently, the normal intestine is not affected by it.

A few months ago I had the opportunity of using this drug considerably, trying first of all its action in normal people, but found that it had practically no effect. In severe abdominal lesions its action was, however, most marked. Fig. 10 is a chart drawn up to show the average number of times the bowels were opened in each patient every day after the operation. These were all acute abdominal lesions, and the averages were made up from 15 cases treated with eserine and 25 treated without. In all cases the salicylate was used, as this is the most soluble and is readily obtained. The cases treated with eserine are marked with a continuous line and those without by an interrupted line, but during the first three days after operation the bowels were in the latter group only opened with enemata. It will be noticed that the drug has a very marked effect, but that its action is best marked after one or two days. In the first few cases 1-50th of a grain was given every four hours and repeated until six doses had been administered. In several of these the results were rather too severe, and a mixture of bismuth and opium had to be given to check the resulting diarrhœa. In the later cases only 1-100th of a grain was given, and it was found that in the majority of cases this could be safely administered for six doses. There seems, however, to be considerable variation in the way different patients are affected.

Fig. 10.



The different conditions in patients treated with and without eserine. Continuous line = with eserine. Interrupted line = without eserine. Compiled from acute abdominal cases only. 15 with and 25 without eserine.

As regards the action of the drug, Hale White[18] states that the muscular coat of the intestines is directly stimulated by the action of the eserine circulating through it; but it is not decided whether it is the muscular fibres or the terminations of the nerves in them which are affected. In either case it will be seen that the part stimulated lies lower than the exhausted part, which is left untouched and allowed to recover.

The reason why the drug does not act in health is at first sight difficult to understand, but it is probably due to the fact that until the local centres are paralysed, as in ileus, the muscular action is kept in abeyance by impulses passing down the splanchnic nerves; when the local centres are paralysed, these, of course, have no effect. Moreover, in these cases there is usually considerable shock, and hence but few impulses will pass down the splanchnics.

Here may be mentioned the fact that spinal anæsthesia is often followed by profuse diarrhœa, but this occurs as a rule either during or soon after the operation, and is probably due to the removal of the inhibitory impulses passing to the large gut along the second, third, and fourth sacral nerves, and thus probably, except as a preventive measure, will be of but little benefit in true ileus.

Summary of Treatment.

In cases of acute paralysis, due to some toxic condition present within the peritoneum, the intestines should be drained as freely as possible during the course of the operation undertaken for the relief of the local condition. In all other conditions no operation is called for, and, since the state of the intestines depends upon the exhaustion of the centres, any form of stimulation is only likely to do harm. Immediately after operation, injection of 1-100th of a grain of eserine salicylate should be given, which may be continued four-hourly until six doses have been given. If no action of the bowels occurs next day a turpentine enema may be given. This line of treatment of course applies only to those cases where it is considered beneficial to keep the bowels open. The question as to when to, and when not to, open the bowels in acute abdominal conditions is too long a one to be considered now. It may be stated then that the effects of any severe operation upon the autonomic nervous system consists of an exhaustion of its centres, both central and local, and that any treatment must aim at procuring rest of these centres. Since in man exhaustion always occurs first in the nervous system treatment of the symptoms should aim at stimulating the local organs so that they may act alone until such time as the centres are again able to undertake the control.

In conclusion, I must acknowledge my indebtedness to the valuable work of Crile and Lockhart Mummery, upon which the first part of this paper, that on "shock," is largely based.

Bibliography.—[1] Lockhart Mummery: "The Physiology and Treatment of Surgical Shock and Collapse," THE LANCET, March 18th (p. 696) and 25th (p. 776) and April 1st (p. 846), 1905. [2] Crile: "Surgical Shock," 1897, Annals of Surgery, vol. xxxv., 1902, p. 441. [3] Sherrington and Copeman: Journal of Physiology, 1893. Proceedings of the Royal Society, April, 1894. [4] A. E. J. Barker: "Clinical Experiences with Spinal Anæsthesia," Brit. Med. Jour., March 23rd, 1907, p. 655, and Feb. 1st, 1908, p. 243. [5] F. W. Hewitt: "General Surgical Anæsthesia," THE LANCET, July 20th, 1907, p. 139. [6] Rivington: Transactions of the Clinical Society of London, vol. xviii., p. 79. [7] Sir F. Treves: THE LANCET, Jan. 21st, 1888, p. 111. [8] Cannon: American Journal of Physiology, vol. vi., 1902, p. 251, vol. xvii., 1906, p. 429. [9] Hertz: "Passage of Food through the Alimentary Canal," Brit. Med. Jour., January, 1908. [10] Elliott: Journal of Physiology, vol. xxxi., 1904, p. 157. [11] Jacobi: Archiv für Experimentelle Pathologie und Pharmacologie, vol. xxvii., 1890, p. 147. [12] Cannon and Murphy: Annals of Surgery, April, 1906. [13] Moynihan: "Abdominal Operations," 1906. [14] Arndt: Centralblatt für Gynäkologie, No. 9, 1904. La Semaine Médicale, No. 10, 1904. [15] Pankow: Münchener Medicinische Wochenschrift, No. 30, 1904. [16] Vogel: Centralblatt für Gynäkologie, May 28th, 1904. [17] Bosch: Münchener Medicinische Wochenschrift, No. 6, 1903. [18] Hale White: Materia Medica, 1905.

London Hospital, E.

AN ORIGINAL METHOD OF FACILITATING INTRA-LARYNGEAL OPERATIONS,

TOGETHER WITH FOUR CASES OF INNOCENT GROWTHS OF THE VOCAL CORD REMOVED.

BY CYRIL HORSFORD, M.D. EDIN., F.R.C.S. ENG.,
SENIOR REGISTRAR, CENTRAL LONDON THROAT AND EAR HOSPITAL;
HONORARY SURGEON, THROAT AND EAR DEPARTMENT,
ST. PANCRAS AND NORTHERN DISPENSARY;
HONORARY LARYNGOLOGIST, LONDON
COLLEGE OF MUSIC.

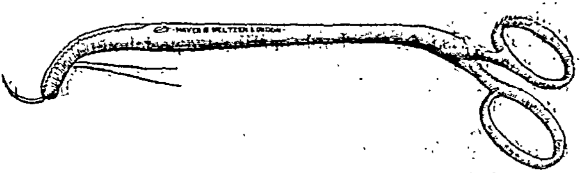
THERE can be no doubt that there is scarcely a region of the body which presents such a difficult field for the exercise of surgical manipulation as the cavity of the larynx. This fact is generally admitted even by those who practise specially in this region of the body. An inquiry into the causes of the difficulty may not be out of place here. These are: 1. The inability to obtain adequate experience. Intra-laryngeal operations occupy a very small part of the average laryngologist's duties, for in the early days of the specialty there was probably much accumulated material, whereas now the experience gained by each is scarcely sufficient to overcome the difficulties to be considered. 2. The obstacles provided by nature. The larynx being the gateway to one of the vital regions of the body nature has provided a most effective barrier to the intrusions of foreign bodies, including the surgeon's instruments. Beginning at the true glottis and extending upwards there is a series of most perfect sphincters, any of which can effectually prohibit intra-laryngeal manipulation. This action is dependent on a highly sensitive mucous membrane and an equally active reflex mechanism. Further, the larynx is so situated that one's best and often only guide into it is a powerful light and an inverted image. In the opinion of the writer, however, the most annoying obstacle is the lid or epiglottis, which sometimes so overhangs as to render a view of the interior of the larynx impossible. The position of the epiglottis varies in every case, and as it is often a bugbear to the laryngologist any simple method of effectually getting over the difficulty should be welcomed by the profession. The epiglottis, as I have suggested, has always been recognised as being one of the main difficulties both in seeing and in treating the interior of the larynx, and many devices have been introduced to get it out of the way. Most, and probably all, of these have taken the form of some instrument which, when introduced into the glosso-epiglottic fossa or over the epiglottis itself, temporarily lifts up the epiglottis. All these necessitated the continuous use of the hand to hold the instrument while in that position. Whether that hand be one of the operator's or that of his assistant is immaterial, for such a method is obviously unsuitable or inconvenient for facilitating intra-laryngeal operations.

The method which I advocate is to pass a suture through the epiglottis, the ends of which are brought over the centre of the tongue and gripped by a pair of Spencer Wells forceps. The weight only of the forceps will then pull the epiglottis forwards against the root of the tongue and usually quite out of view. The patient then holds the tongue in the ordinary way. The principle is obvious and perfectly simple, yet I feel I am justified in using the word "original," in the title of my paper, for after careful search and inquiry I could not find any evidence that the method had been used before. Sir Felix Semon,[1] however, has recently pointed out that he found that the method was described in a German book about 40 years old, but the author evidently did not succeed in convincing his colleagues of its practicability. The method as I now practise it has evolved through three distinct stages and a description of these stages may be interesting.

The idea first occurred to me in July, 1906, when I adopted it in order to facilitate an operation of exceptional difficulty—namely, the excision of a very tough fibrous web which united the anterior halves of the vocal cords and extended some way down into the cavity of the larynx. The epiglottis was not overhanging, but I wished to get it out of the way because I was using a sharp-pointed Heryng's knife, followed by sharp punch forceps, and it was necessary to get the best view possible. In connexion with this case it was interesting to note that though the greater part of the obstructing tissue was removed it was found impossible to prevent the raw edges of the vocal cords from uniting. The result of apparently so hopeless a case was not without some success. The patient now enjoys active exercise, such as dancing, tennis, and rowing, without getting short of breath, and though absolutely aphonic for eight years, in spite of many trials of voice-production methods, *a* voice has been now produced as the result of vocal exercises. The patient speaks in a deep breathy monotone, but tones can be made varying in pitch to the extent of an octave. In this case I used simply a pair of Spencer Wells forceps curved at the point, with which I held a small curved needle threaded with a horse-hair suture. With the aid of the laryngeal mirror the needle was pushed through the epiglottis from before backwards, the point being then caught by the forceps and drawn through. There was not much difficulty in passing the suture and not the slightest discomfort to the patient, who had already been thoroughly cocainised in preparation for the operation.

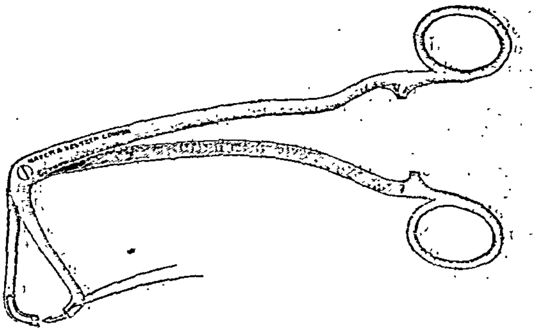
The next occasion on which I employed the method was in October, 1907 (see Case 1). The epiglottis in that case being markedly overhanging and accuracy in operating necessary because the patient was a vocalist, I used the needle-holder drawn in Fig. 1, which was made to my design by Messrs. Mayer and Meltzer. Its principle and method of use is similar to that already described in the former case, in which simple forceps were used. The inner surfaces of the points of this instrument are so serrated as to allow the needle to be firmly gripped in any position in which it is placed. This instrument was shown and the method described and demonstrated on a patient at the meeting of the Laryngological Section of the Royal Society of Medicine in December last, and it was very favourably received.[2] In support of this instrument I may say that it will be found useful in all except the most extreme cases, for the only case in which I have failed was one under the care of Dr. William Hill, in which the upper border of the epiglottis was in contact with the posterior wall of the pharynx, for it was then impossible to see the point of the needle after it had been pushed through the epiglottis. Its use is, however, somewhat difficult and is dependent entirely upon a thorough preparation of the patient.

FIG. 1.



In order to render the method acceptable in all cases it was obviously at this stage desirable to facilitate it still further. I therefore had made the instrument shown in Fig. 2 by Messrs. Mayer and Meltzer. It is a modification of Kurz's suturing forceps used for the passage of deep sutures in pelvic surgery. The patient is prepared in the usual way but such complete local anæsthesia is not so necessary as in the former methods. The needle is first

FIG. 2.



---

[1] Türck's Klinik der Kehlkopf-krankheiten, 1866, p. 552.

[2] Proceedings of the Royal Society of Medicine, vol. i., p. 3.

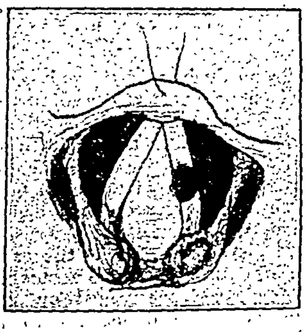
threaded with a long piece of silk and placed in the proximal blade, and with the aid of the laryngeal mirror it is introduced into the throat until the upper border of the epiglottis is seen to pass between the point of the needle and the distal blade. The distal blade only need be watched, for as soon as it is seen to have passed over the upper border of the epiglottis the handles are firmly closed, then opened, and the instrument withdrawn, and it will then be found that the suture has been passed through the epiglottis. As before, the ends are gripped by forceps and an additional pair may be added to increase the weight if necessary. By this means the suture can be passed rapidly, easily, and without any discomfort to the patient. On the occasions on which I have used it the patients have neither strained nor coughed, and when the suture is passed the patient is not conscious of its presence so long as the effect of the cocaine lasts, though in Case 3 there were feelings of nausea which soon passed off. The use of the instrument entails no risk to the patient. The needle is held sufficiently firmly in the proximal blade to prevent it falling out before it is passed and should it do so it falls into the glossal epiglottic fossa only and is easily withdrawn by the thread which is held in the hand. When the blades are closed it is firmly caught in the distal blade and cannot be released until the instrument is withdrawn and the needle turned on its long axis to be liberated; there is, therefore, no risk of its falling into the cavity of the larynx. The epiglottis does not suffer in the least by the passage of the needle, and the only changes which I have observed to follow have been beneficial rather than otherwise, for the simple or adhesive perichondritis which necessarily follows in the neighbourhood of the puncture has resulted in a little stiffening of the epiglottis, which facilitates subsequent intra-laryngeal inspection.

This method of facilitating intra-laryngeal operation is therefore rapid, simple, safe, and painless. The suture occupies no space in the mouth and, unlike other epiglottis lifters (Mount Bleyer's and Escat's), it does not require the assistance of a third hand. It further helps to steady the larynx. Though the shaft of some laryngeal forceps may be used to pull the epiglottis forward during their use it is a decided advantage to be independent of that action, so that the operator may be free to place the forceps in any position he desires to prevent the shaft from hiding the point and obstructing the light. I consider that the method should not be limited to cases of obscured fields of operation but in all cases where the epiglottis in any way hinders a delicate intra-laryngeal manipulation, whether it be cutting or cauterising, especially where a perfect vocal result is desired. This method may also be used simply for diagnosis when other methods of lifting the epiglottis have failed. It may in a few cases be used without the aid of a laryngeal mirror when it is found on depressing the tongue firmly the upper border of the epiglottis can be seen.

This instrument and its use were also demonstrated at the Laryngological Section of the Royal Society of Medicine in April last.[3] As its success depends on the preparation of the patient it may be as well to state my method of procedure. The patient being made calm and comfortable and relieved of all his fears, I spray the pharynx, both surfaces of the soft palate, and the larynx with a 10 per cent. solution of cocaine. Some is then dropped on to both surfaces of the epiglottis with a laryngeal syringe and the patient is encouraged to clear the throat of the superfluous fluid. I very rarely use a swab or brush, and then only when anæsthesia is nearly complete, for it usually produces involuntary coughing, which is unnecessary and should be avoided. It is also advisable to apply to the surfaces of the epiglottis and root of the tongue a little adrenalin, to prevent the possibility of hæmorrhage obscuring the field of operation.

CASE 1.—A single woman, aged 36 years, an amateur vocalist, contralto, consulted me for hoarseness and loss of singing voice. Up to two years previously she had done a good deal of choral singing but since had been obliged to give it up. The vocal difficulty was quite gradual in its onset and occasionally the voice would fail suddenly in the middle of a song. On examination the vocal cords were quite normal in colour, but resting on the upper surface of the left vocal cord was a small spherical tumour, bright red in colour, semitranslucent—both in appearance and size like a small red currant. It had no definite pedicle (see Fig. 3). Clinically it appeared to be a soft fibroma, and was evidently subject to hæmorrhage within its substance, for such an occurrence was demonstrated at her second visit. The epiglottis was markedly overhanging, so much so as to render a complete view of the growth very difficult, and then only on phonation. The growth was removed on Oct. 11th last in the presence of my colleague Mr. W. Stuart-Low and Dr. L. A. Hawkes. Lack's laryngeal forceps were used. The operation was greatly facilitated by the epiglottic suture, which was passed by the epiglottis needle-holder (Fig. 1) without any difficulty or discomfort to the patient. On Dec. 11th this patient was shown at the Laryngological Section of the Royal Society of Medicine when her voice, both singing and speaking, was perfectly clear.[4] She has since resumed her singing.

FIG. 3.



A section of the growth was cut by Dr. V. H. Wyatt Wingrave and his report is as follows: "The growth is of a fibromatous character, highly vascular in parts, the vessels having thin walls. In one region there is lymphocytic infiltration suggestive of an inflammatory process. The surface is squamous epithelium, somewhat thickened and irregular. Its nature is that of a benign fibroma."

CASE 2.—A single woman, aged 29 years, a professional singer, was sent to me for hoarseness and inability to sing. Her history was of considerable interest. She had sung on the music hall stage for the past ten years on and off and had been in the habit of forcing her voice, especially latterly, when she began to be troubled with recurring attacks of huskiness and inability to get easily the upper tones of her voice. The vocal disability became so marked that she was obliged to seek medical aid about 12 months ago, since which time she had been under the treatment of several laryngologists in England and New York for singer's nodes. On one occasion, after several attempts to remove the nodules with forceps, some strong caustic was applied, which unfortunately produced such inflammatory reaction that her singing voice was completely lost for eight months. After a course of six weeks' vocal exercises she resumed her professional work for three weeks in February last, although the voice was still husky, but was then obliged to give up singing, as she regarded it as hopeless. I saw her first on April 1st and found that the nodule of the left cord had disappeared, but on the right cord at the site of election (the junction of the anterior third with the posterior two-thirds) was a very small nodule sharply pointed and evidently one of long standing. There was no laryngitis. On April 4th I removed the nodule with Whistler's forceps and the passage of the epiglottic suture with the epiglottic suture forceps was chiefly responsible for the fact that I was able to effect the removal at my first attempt. The whole operation was completed without the slightest discomfort to the patient and she never coughed or strained once. The epiglottis was not overhanging but I wished to get it entirely out of the way, as I felt it my duty to adopt every means which might facilitate an operation that would make or mar a professional career. For a week I ordered the patient to maintain absolute silence, and at the end of three weeks' rest her singing and speaking voice was absolutely clear and she commenced gentle vocal exercises. In eight weeks from the date of operation I unwillingly permitted her to resume her professional career and she fulfilled with success a week's engagement with two performances nightly at a music hall. She is now studying voice production.

---

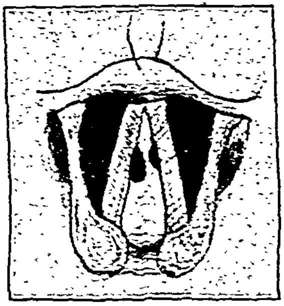
[3] Ibid., vol. i., p. 7.

[4] Ibid.

The operation being one of great difficulty, owing to the smallness of the growth, and the great risk of damaging the vocal cord and so spoiling the voice, Sir Felix Semon, who saw the case before the operation, has kindly permitted me to state that when he examined her again seven weeks after he found the edge of the vocal cord perfect and the voice most satisfactory.

CASE 3.—A man, aged 50 years, an auctioneer, consulted me for hoarseness and increasing difficulty and discomfort in the use of his voice. The hoarseness had been present for many years but had recently become very marked. His occupation necessitated forcible use of his voice in a hot, dry, dusty atmosphere, and he had never had his voice trained for the purpose. On examination I found in his nose no marked obstruction, but it was narrowed by simple hypertrophic rhinitis. There was a great deal of chronic pharyngitis and excessive irritability of the pharynx, which, with an overhanging epiglottis, were some of the causes which rendered a good view of the whole of the interior of the larynx extremely difficult to obtain. So difficult was it that it was not until the third visit that I could make out that in addition to chronic laryngitis there were two soft fibromata at the junction of the anterior third with the posterior two-thirds of each vocal cord. The right was considerably larger than the left, was œdematous and pedunculated, and like the rest of the larynx of a deep red colour (see Fig. 4). On April 13th, 1908, in the presence of Mr. Howard Barrett, I removed the growths with a modified form of Mackenzie's forceps, having greatly improved the view by the epiglottic suture, for which I used the suture forceps (Fig. 2). His voice has greatly improved and at the time of writing he is still under treatment for chronic laryngitis.

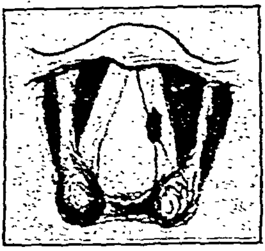
FIG. 4.



Microscopic report by Dr. Wyatt Wingrave is as follows: "A small round mass covered with normal stratified epithelium on its free surface, below which is a loose fibro-vascular network, containing a laminated mass of fibrin, surrounded by a thickened or compressed zone of closely packed white fibres. Immediately surrounding the clot is a layer of epithelioid cells, some of which could be traced into the substance of the fibrin indicating organisation. No pigment could be seen. The growth is evidently produced by endovascular clotting, not a mere extravasation. It is equally probable that the thrombosis occurred in a lymphatic channel; its nature is a thrombosed angio-fibroma."

CASE 4.—This case is recorded because of its clinical and vocal interests, but not in illustration of the above method, for I did not at the time have an instrument suitable for the purpose. A single woman, aged 27 years, a well-known professional vocalist, contralto, came to me complaining of recurring attacks of huskiness, the occasional inability to get some of the higher notes which would suddenly fail, and gradual deterioration of the voice. This condition had lasted about two years, during which she had several mild attacks of laryngitis. She had had previously a good deal of treatment but when she came to me I found in the nose enlarged middle turbinals and chronic suppuration of the left antrum, and in the larynx slight chronic laryngitis, and what may be described clinically as a soft fibroma on the upper surface of the left vocal cord (see Fig. 5). It was situated near the edge of the cord which it partially overlapped and was oval in shape and of a deep red colour. It varied in size and was apparently mobile, although a pedicle could not be observed. Usually during phonation it was safely kept away from the vibrating edge of the cord by the upper current of air, but occasionally an excessive accumulation of mucus on it or blood within it would so increase its weight that a portion of it at least would get suddenly between the vocal cords, causing the vocal disaster above referred to. After improving the condition of the nose I strongly advised removal of the growth, and Dr. StClair Thomson, who had also seen the case, agreed both with the diagnosis and with the treatment recommended. In July, 1907, Dr. A. E. C. Rees being present, I removed the growth with Lack's forceps, and in this case the epiglottis was not a serious hindrance. Her convalescence was somewhat slow because of subsequent laryngitis, which was not surprising as the cords were at the time so affected and the patient breathed through an unhealthy nose. She revived her vocal practice in December and has now resumed her professional career, and is considered to be in better voice than she has ever been, and, what is more important still, it is reliable.

FIG. 5.



The microscopic report by Dr. Wyatt Wingrave was as follows: "A small irregular fragment about 5 by 2 millimetres, consisting almost entirely of thickened stratified epithelium, with a scanty core of vascular connective tissue. There are no signs of heteromitosis but of slight inflammatory process in one part. Nature—a simple papilloma."

Remarks.—The four cases recorded illustrate four different varieties of benign growths of the vocal cord. An important factor in the etiology of all four cases is the over-use or wrong use of the voice. They may be conveniently divided into two groups: Group 1, Singer's node, or corditis tuberosa; and Group 2, soft fibroma, or polypus. Case 2, the only representative of Group 1, can scarcely be described as a new growth, for it is simply an epithelial thickening or corn, the result of attrition with the opposite vocal cord. The condition is common in school board teachers and singers (especially sopranos), and results invariably from failure to acquire that perfect vocal balance which gives the best vocal result with the least effort. The excessive use of the *coup de glotte* and the conditions necessitating forcing of the voice, such as relaxation of the vocal cords, general debility, and noisy surroundings, form the substance of one of the theories of their production. In both conditions there is an excessive accumulation of pressure behind the vocal cords which tend to yield at the centre of their ligamentous portions—that is, the junction of the anterior third with the posterior two-thirds of the whole length of each cord. This results in the bowing inwards of the cords (a condition which should be recognised as the first stage of the tendency of the formation of nodes), so that they meet at one spot before the rest of the cords become perfectly approximated, hence increased friction and growth at that spot.

Another causal theory which tends to explain their occurrence at the site of election rather than their formation is dependent on the following facts. A careful inspection of the surface of a vocal cord during phonation will reveal the tendency of minute droplets of mucus to congregate and coalesce at the seat of election, which is believed to be the nodal point in the compound vibrations of the vocal "string." This is the point of least vibration, and therefore capable of being brought into closer contact with the corresponding point on the opposite cord than the rest of the cord, forming, therefore, the point of greatest friction. The acute nodule, of recent formation consists merely of œdema of the epithelial layers of the cord, and if the cause is persistent there follow epithelial hyperplasia, keratinisation, and lastly, thickening of the adjacent connective tissue. Operative treatment probably becomes necessary when the last two stages have been reached.

With regard to Group 2, laryngeal growths generally are very uncommon, and are shown by hospital statistics to constitute only about 1·25 per cent. of purely laryngeal diseases.[5] Of these papillomata are the most frequent variety, true fibromata being very rare. Of 100 cases of simple growths published by Sir Morell Mackenzie, 10 per cent. were fibromata but only two resembled my cases.[6] Dr. Wyatt Wingrave has, however, examined and published a large number and has, I believe, examined many more since.[7] Whereas in Case 4 the clinical picture is indistinguishable from that of typical fibroma, the microscope reveals the fact that the growth is of epithelial and not connective origin. This contradiction is not uncommon. Of the other two, it is probable that only Case 1 can be considered a true fibroma, Case 3 being a product of inflammatory and mechanical irritation. The three well-recognised predisposing factors in the origin of laryngeal growths are present in Cases 3 and 4—namely, nasal obstruction or disease, laryngitis, and over-use of the voice. If Cases 2 and 3 be compared as regards their etiology and site, it would appear that they differ chiefly in degree, for owing to the laryngitis in Case 3 the mucous membrane covering the cords was soft and swollen, a condition unfavourable to the formation of a "hard corn." The friction, however, with the opposite cord resulted in the irritation and clotting in the congested vessels of the submucous tissue, which in turn stimulated growth in its immediate vicinity. The occurrence of such a growth therefore is no mere accident, but a direct result of the occupation of the patient. No such sequence of events can be suggested as the origin of the growth in Cases 1 and 4, but it is probable that in Case 4 the patient had been using "unwisely and too well" her voice, before the complete subsidence of one of her attacks of laryngitis, resulting in some endo- or extra-vascular clotting, which was the original irritating source of the growth.

In conclusion, it may be said that efficient nasal breathing and the correct use of the voice will prevent the occurrence of such growths in those predisposed; and should such growths occur the methods I have advocated for their removal would greatly minimise the risks of damaging the vocal cord and thus the best results be expected.

Wimpole-street, W.

THE INFANT IN THE SCHOOL MEDICAL EXAMINATION.

BY A. D. EDWARDS, M.B., B.S. LOND., B.SC., D.P.H., L.R.C.S. EDIN., L.F.P.S. GLASG., &C.,
DEPUTY MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER TO THE COUNTY BOROUGH OF NEWPORT, MON.

THE examination of the infant of four or five years of age forms a large part of the work of the school medical officer and as this class is, on account of the tender years of children, the most difficult to deal with, it is necessary that the examination should be conducted warily and with the least possible disturbance to the child. It is not sufficient that the examining medical officer should exhibit in a general way the characteristics of tact and kindness; for if one timid infant returns to its class frightened and tearful after the medical examination it is certain that many, if not most, of the other children from that class will come to the examining room with a predisposition to cry and to be frightened, and there will then be an increased possibility of a large number of examinations being carried out under the most disadvantageous circumstance—that of a frightened, crying child.

Fear of the unknown is well marked in all children, and in the infant class with which we are dealing it is probably the most powerful instinct next to that of mother-love. Only a few months before the medical examination these children of four or five years of age have made their first venture out of the home circle into the daily school life, and their instinctive fear of the unknown and of the unusual is often increased by certain attendant circumstances. Under most education authorities a notice is sent to the parents inviting one of them to attend at the medical examination of the child, and a frequent result of this is that the child hears the subject discussed at home and obtains an erroneous impression of the matter to which its own faculty of imagination contributes largely. Another result of this notification is that on the morning of the examination the child often receives an unusually thorough washing and scrubbing and is then arrayed in clothes which are donned only on Sundays and special occasions. The unusually vigorous ablution and the wearing of Sabbath apparel mark out the day as being special; from the home conversation the child has gathered that it is not a picnic or other pleasure-giving day, and by the time it arrives at school an excitable child will be in a state of nervous tension, which, if its feelings are not carefully studied during the examination, will surely end in fright and tears and thus render the examination a matter of extreme difficulty; and the return of such a child to its class will result in much trouble in the examination of children immediately following. So that although with ordinary care a number of normal infants of four or five years of age may be examined successfully without one of them crying or being frightened, it is most important that the examination should be conducted in such a way that even a nervous or timid child should be put at ease, and indeed it should be the object of the examining medical officer to make the child interested in the examination—an object which, if suitable means are employed, is neither impossible nor difficult.

With the object of making a good start it is well that when the infant enters the examining room there should not be more than two or three adults present. It is neither necessary nor wise to have in the room any adult besides the medical officer, the school nurse, and the head teacher. If the latter is an efficient administratrix she will be well known to the child, who will look upon her as a friend, but it will be found that the presence of the child's mother more often hinders than aids the examination, and in most cases a timid child will respond more readily to tact and kindness from the medical officer in the absence of the mother—a fact which is explained by the instinct of the child to run to its mother in the presence of strangers.

Important information concerning the child's previous illnesses, general health, &c., can be obtained at a preliminary interview with the mother, and in this connexion it may be noted that an opinion of the child's mental capacity, should be obtained not only from the head teacher but also from the governess who has most to do with the child. In the case of a very timid child, the presence of another child from the same class, preferably one who has been examined and has "made friends" with the medical officer, is an advantage, but it is inadvisable to keep one child waiting its turn and watching the examination of another.

The order of the examination is important. Thus the weighing and measuring should not be done first, for an infant is apt to become uneasy if made to stand on the scales immediately after entering the room, so that the proceeding should be left until the child's interest and confidence have been gained; nor should the mouth and throat be examined until the end. Two things should be avoided during the examination—fussiness and sudden and rapid movements. The confidence of a nervous infant may be won by gentle attention, but to be fussed over by two or three adults at the same time is to the liking of no child.

The distrust of jerky and sudden movements which is displayed by infants of four or five years is the same instinct which is described by Richard Jefferies as existing in wild animals, and gentleness in voice and gesture should be therefore the habit of every school medical officer. Although toys are useful in estimating the mental capacity of the infant their routine use during the examination is not to be recommended, for the interest of the child should be centred in the medical officer and in what he says rather than in an external object; and, moreover, although the toys may help to put a child at ease and to prevent fright during the examination, they may be so attractive that the parting with them at the end of the examination will result in a flood of tears. The examination of the child should begin as soon as it enters the room, for the faculty of keen observation should be developed so as to give the fullest information concerning the child, and the general appearance, gait, and pose of the head may be observed at a glance, and the presence of the adenoid facies, rickets, or deformities should also be noticed. Before the examination of the chest is proceeded with the child should be spoken to and encouraged to speak and to become used to the stethoscope which, with a little suggestion, may be regarded as a new kind of toy. Not a few children are inclined to look upon the stethoscope with distrust, but their aversion may be very readily overcome by asking them to hold the chest-piece to the ear in order to "hear the bird sing," and whilst the piece is held to the ear a sibilant whistle may be produced, the tip of the tongue being placed behind the upper incisor teeth, approximating to its position in the act of hissing. The lips should not be used in the production of this sound, which is the best test of a child's hearing, and with a little experience the intensity can be varied so that a standard for normal hearing can be obtained. The fact that the little bird is heard to whistle must be ascertained not by questioning but by observing the child's face, for the resulting smile is not only almost invariable but is the most valuable affirmation to be obtained. During this performance, which need not take more than 30 seconds, the school nurse should be loosening the infant's clothing, and the child should by this time be interested enough to place the stethoscope on its chest when asked to do so, and it will be an advantage to allow the little hand to remain on the end of the stethoscope whilst it is moved to different parts of the chest.

---

[5] Lennox Browne: Diseases of the Throat and Nose, p. 651.
[6] Morell Mackenzie: Essays on Innocent Growths of the Larynx.
[7] Wyatt Wingrave: Journal of Laryngology, Rhinology, and Otology, vol. xxi., p. 5.

The weighing and measuring of the child may now be undertaken; after which the manual examination for the submaxillary and cervical glands should be done. For this the child must bend the head downwards in order to relax the cervical muscles, and this opportunity is favourable for the inspection of the condition of the scalp and head at the crown; in the same way the sides of the head may be inspected whilst the examination for external ear disease is proceeding. The infant is less likely to be frightened by this part of the examination, but it is well to retain the child's interest by talking; and, indeed, it is a golden rule that throughout the examination the child should not be too conscious of the fact that it is being examined. The examination of the mouth and throat is left until late because it disturbs the child most, and in this connexion the shape and material of the spatula are not unimportant. Vulcanite is to be preferred to metal, the coldness of which makes it uncomfortable for the child; when the instrument is disinfected by means of biniodide or other compound of mercury, metal of course cannot be used. Here also reference may be made to the question of the advisability of giving sweets to the child. It is true that the school medical officer should rely on his tact and manner to win for him the infant's confidence, but there are not a few cases in which the appeal to "cupboard love" is necessary, and in which the giving of a small sweet will make the difference between an examination of a crying, struggling child and one which is done quietly, pleasantly, and successfully. Particularly useful is the giving of a sweet in the examination of the mouth and throat, for however reluctant the little one is to allow its mouth and throat to be examined, it will almost invariably allow the doctor to "see if the sweet is finished," and the whole process of the examination will be regarded as part of a game, and even the last slight pressure of the spatula on the tongue which is necessary to reveal the tonsils will not interfere with the smile which comes when the examination is finished.

Thus it will be seen that by methods which the above remarks indicate in a cursory manner the infant may be not only interested in the examination but may be made to enter into it as a game; and such methods will be found to be particularly useful in the case of timid and nervous infants who, if frightened, would be found to be difficult and even impossible to examine fully without physical force. Too much attention should not be paid to quiet crying in an infant, and it has at least one advantage that the occasional long-drawn inspiration gives one a good opportunity of listening to the lung sounds. But even gentle crying should be a rare occurrence, and by tact and kindness and the use of suitable methods the confidence of the most timid infants of four and five years may be won by the true lover of children.

Newport, Mon.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF SEPTIC PLEURISY AND PERICARDITIS RUNNING AN AFEBRILE COURSE; DEATH WITHIN SIX DAYS OF ONSET OF SYMPTOMS.

BY C. W. WINDSOR, M.A., M.D. CANTAB.

THE patient was a thoroughly healthy man, aged 40 years, living in a country village, occupying himself with farming for a living and shooting for sport. The only previous illness of consequence was a severe attack of pleurisy 16 years ago; but ten weeks before the onset of the illness to be described below he had a very sharp attack of shingles which pulled him down somewhat. On each of the three days before the beginning of the fatal illness he had been out shooting, and beyond being a little fagged was in apparently good health. On Sept. 28th at tea he complained of his throat being stiff and full but did not make much fuss about it. This condition became much worse during the night, so that a medical man was sent for early next morning, when the uvula was found to be much swollen, almost blocking the fauces and interfering considerably with breathing. His temperature was 99° F. Later in the day this œdematous swelling was freely scarified, to the patient's relief; his temperature rose in the evening to 102°. Next morning, Sept. 30th, the swelling of the uvula and soft palate had subsided but the patient looked ill with rather a cyanosed complexion; his temperature was 101°, his breathing was quick and shallow, his voice had almost gone, and swallowing was difficult, the symptoms pointing to some œdema of the glottis; the pulse was rapid. During the night he complained of very severe pain in the upper part of the abdomen, especially over the liver. On examination of the chest friction sounds were heard over the lower part of the right lung, the axilla, and also at the left base behind; while over the cardiac area there were abundant soft crepitations but no pericardial friction. There was no expectoration. The temperature was 99°, the respirations were 40, and the pulse was 120. The heart sounds were clear. The urine and abdominal viscera were normal. The uvula and mouth were healthy. The skin was perspiring freely. The feet were cold. There was cyanosis of the face. This condition of things quickly developed into well-marked pleurisy at each base, with some consolidation of the underlying lung tissue. Expectoration was slightly rusty coloured. The temperature remained normal but the pulse-rate varied between 140 and 160 and respirations were from 40 to 50. There was a constant desire to sit up in a chair, as he could not rest in bed. The face was a bad colour and the patient was greatly exhausted and suffered from sleeplessness. His mind was quite clear. In this condition the patient was seen in consultation by Dr. Laurence Humphry. Without development of further physical signs the condition became rapidly worse and the patient died on Oct. 5th after six days' illness.

Nothing special beyond pneumococci was found on bacteriological examination of sputum. Treatment was on ordinary lines with a view to promote sleep, to relieve pain, and to maintain strength. Antistreptococcic serum was injected, oxygen and hypodermics of strychnine were freely used. At the post-mortem examination there was very intense pleurisy on each side with membrane a quarter of an inch on both surfaces of the pleura, also consolidation of the lung in each lower lobe. The whole pericardium was lined with a similar thick membrane, showing a reticulated surface and resembling uncooked tripe. There was some congestion of the larynx. There was considerable enlargement of the spleen. Cultivation growths from the affected viscera showed staphylococci and streptococci, pneumococci, and also a large bacillus resembling bacillus anthracis but which proved to be a putrefactive organism. The interest of this case lies more in the speculation as to its origin than in the actual lesions. The œdematous swelling of the uvula and soft palate was attributed to the sting of a wasp or other insect, possibly occurring while taking tea, at which the patient ate some strawberry jam. The patient, however, disclaimed any knowledge of having been stung or bitten. There had been no exposure to cold or wet. The bad prognosis given was based upon the afrebile course of the illness, the extremely rapid pulse, the cyanosis and cold sweats with rapid exhaustion. The case was apparently one of septic infection resulting from some cause unknown, unless the hypothetical sting be looked upon as the point of entrance of some infective organism. Inquiry was made as to the possibility of infection from any diseased animals or farm stock with a negative result.

Royston, Herts.

INDUCTION OF LABOUR *V.* MORPHINE IN ECLAMPSIA.

BY W. BOXER MAYNE, M.R.C.S. ENG., L.R.C.P. LOND.

THE following is a report on a severe case of eclampsia showing the relative value of hypodermic injections of morphine and induction of labour as treatment.

I was called about 7 A.M. to see a young woman whose husband informed me that she was eight months pregnant and that she had just had a fit. On arrival at the house I found that the patient, a primipara, 20 years of age, had had in the meantime a second fit, the first having occurred about 6 A.M. and the second about 7 A.M. On inquiry I found further that she had complained for a day or two of violent headache and also of pains in the back. She was very puffed about the face, her feet and ankles being very œdematous. Though strange and excitable in her manner she nevertheless allowed, after a little persuasion, a vaginal examination; the os was of about the size of a shilling and the vertex was presenting. Having found morphine a great success in other cases I resolved to give the same treatment further trial and, as before, to commence with a hypodermic injection of half a grain. Whilst getting the injection ready the patient had a third severe fit. In addition to the morphine I placed two minims of croton oil with a little butter on her tongue and had her wrapped in a hot pack. At 10 A.M. she had a fourth fit, a nurse in attendance administering, by my instruction, a further hypodermic injection of a quarter of a grain of morphine, which was repeated by myself about 12.30 A.M., the patient being then in a semi-conscious state. I had no sooner gone than the patient had a fifth fit; and at 3 P.M. a sixth, when the nurse gave her a third hypodermic injection of a quarter of a grain of morphine. Seeing the patient again at 4.30 and finding that she had had the two fits since my previous visit and that she was in a comatose condition, I determined to postpone no longer the last resource, viz., induction of labour. Administering chloroform, I managed to dilate the os sufficiently to enable me to perform version; accelerating matters by traction I presently delivered a living child. As a precaution I gave a hypodermic injection of four tabloids of ergotinine citrate, each 1-200th grain, and one of strychnine, 1-30th grain. From this time nothing untoward occurred; the patient spent a quiet night and was able to recognise me the following morning, though still dazed and heavy. During the day she passed a little urine with her motions, and the day following, under the influence of diuretics, &c., a fair amount; this, the first I had been able to examine, presented about one-third albumin. The progress of the patient since has been uninterrupted.

Swindon.

A CASE OF PLASTIC RESECTION OF THE BREAST AND ITS BEARING ON THE ROUTINE PRELIMINARY INCISION OF BREAST TUMOURS.

BY C. HAMILTON WHITEFORD, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, aged 24 years, married, one child 19 months old, was operated upon on Nov. 10th, 1907, and was shown at a meeting of the Plymouth Medical Society on Feb. 19th last. For the past four months she had noticed in the centre of the upper and inner quadrant of the left breast a tender thickened area of the size of half-a-crown. This tender area, after treatment by local applications for four months, was still a source of discomfort to the patient who, having to be anæsthetised for operation on an anal fistula, decided to have the breast dealt with at the same time. The breast was treated by Collins-Warren's modification of Thomas's operation. The skin incision, nine inches in length, exposing the fibres of the greater pectoral muscle, commenced in the nipple line in the fold below the breast, was prolonged upwards along the lower and outer margin of the breast and was further extended along the under surface of the anterior axillary fold. The breast was then dissected upwards and inwards off the greater pectoral muscle until the deep surface of the upper and inner quadrant was exposed. The mass was incised on its deep surface and the diagnosis of chronic mastitis was confirmed. The segment of breast tissue containing the tumour was excised. This wedge-shaped area included the whole thickness of the breast, but stopped short at the subcutaneous fat, which was not disturbed. The base of the wedge measured three inches; the apex of the wedge was situated one inch above and one inch to the inner side of the nipple. The breast was reconstructed by closing the wedge-shaped gap and fixed in its normal position. This was done by four layers of catgut sutures. The first layer, including the subcutaneous fat, approximated the superficial portions of divided breast tissue. The second layer approximated the deep portions of cut breast surface. The third layer, the breast having been turned down into its natural position, attached the breast to the edge of the greater pectoral muscle. The fourth layer approximated the connective tissue immediately beneath the skin incision, which was sutured as advised by Warren without drainage. In spite of many ligatures and firm pressure by dressings a hæmatoma developed between the breast and the greater pectoral muscle. This hæmatoma became infected and was drained through the skin incision.

When seen four months after the operation the breast was in its natural position, the skin over the resected area was normal, showed no depression, with only a suspicion of flattening, and admitted of the wearing of a low evening dress. It is interesting to note that this satisfactory result ensued in spite of the unfortunate incident of the hæmatoma. The long skin incision and freeing of the breast by cutting off the nerve-supply rendered the lower portion of the breast at first almost completely anæsthetic. At the present time this anæsthesia has nearly disappeared. In view of the extensive area involved in the dissection it is probably safer to drain for 24 hours the retro-mammary tissues by a tube passed from the lowest part of the skin incision to the deep surface of the sutured breast area.

The above method has an important bearing on the best position for the preliminary incision, which should be made into every breast tumour as a preliminary to radical treatment. The surgeon who, in performing a radical operation for supposed malignant disease of the breast, neglects the elementary precaution of incising the tumour, as a means of either confirming or disproving the diagnosis, runs the risk of finding himself in the unenviable position of having performed Halsted's, or some equally extensive operation, for a simple tumour such as an adenoma or abscess. An incision made into the tumour directly through the overlying skin in the event of the tumour proving non-malignant and needing only local removal, results to a certainty in a scar and probably in a depression. This scar, or scar plus depression, if situated in the upper half of the breast, interferes with the wearing of a low-necked dress. By employing Warren's skin incision, followed by incision of the tumour on its deep surface, such disfigurement can be avoided. If the tumour is found to be innocent it can be treated as in the case recorded above. If the tumour proves to be malignant, in order to minimise risk of dissemination of cancer cells its cut surface is cauterised and a pad of gauze is packed between the breast and the greater pectoral muscle. The breast is turned outwards and downwards so as to occupy its normal position and is fixed to the greater pectoral muscle by a continuous suture. After discarding all instruments, gloves, &c., used for the exploratory incision, a fresh supply is employed in the performance of the radical operation.

Adoption of the above method (which, while not unknown, is certainly not in general use) as a routine preliminary to operations on mammary tumours situated in the upper half of the breast will, in the case of an innocent tumour, prevent a disfigurement which, to a sensitive patient, is distressing and surgically is unnecessary.

Plymouth.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Ovarian Pregnancy Co-existing with Intra-uterine Pregnancy.—Exhibition of Specimen.

A MEETING of this section was held on June 11th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. J. M. MUNRO KERR read a paper on a case of Ovarian Pregnancy Co-existing with Intra-uterine Pregnancy. The ovary containing the ovarian pregnancy was removed by operation. The embryo was at a stage closely corresponding to one described by Graf von Spee. It was so much injured, however, that reconstruction was not possible and the sections were exhibited, the ovum being the youngest yet recorded in that position, to demonstrate the nature of imbedding in the ovary. There was a large corpus luteum, the contour of which was intact, except at one point where there was young organising connective tissue, forming a continuous strand reaching from the centre of the corpus luteum to the margin of the implantation cavity. The cavity had been excavated in the ovarian stroma, and its walls were formed in part of connective tissue in a state of coagulation necrosis, but to a greater extent by fibrin and blood clot. The surface of the ovary had been ruptured and the ovum was evidently in the process of extrusion. There were absolutely no signs of any formation akin to decidua and the more actively destructive phases demonstrated in the first specimen had obviously persisted until a considerable part of the ovary had been destroyed. The ovum lay more or less free in the implantation cavity; the villi were irregular and many were overtaken by degenerative changes but they contained blood-vessels and showed precisely the same coverings as in a uterine ovum at the same stage of development. The sections prove: 1. That the ovum can be imbedded in the ovarian stroma outside the Graafian follicle. 2. That it imbeds itself just as does the ovum in the uterus in connective tissue rich in blood-vessels. 3. As has already been shown by C. von Tussenbroeck and others, the uterine epithelium is not necessary for plasmodial formation; as this ovum lies in the ovarian stroma neither can the plasmodium be derived from the follicular epithelium. The two cases combined once again demonstrate the nature of implantation. The process involved is essentially a destructive one; the primary necessity for the ovum is a nidus of connective tissue rich in blood-vessels. Formation of decidua is not essential; it is a defensive reaction against the destructive activities of the trophoblast, which it limits and controls.

Dr. JOHN H. TEACHER gave lantern and microscopic demonstration of an extremely young human ovum (Teacher-Bryce ovum). This specimen represents the earliest stage of the human ovum which has been found and presents features hitherto unknown. The ovum was found by Dr. Teacher in a portion of decidua shed by abortion. It is imbedded in the decidua in an oval cavity filled with maternal blood and having a small orifice closed by a fibrinous plug. The walls of the blastocyst (which measures internally 0·77 by 0·63 by 0·50 millimetre) are composed of a thin cellular layer and a very irregular plasmodial formation together constituting the trophoblast. Within this there is a delicate mesoderm, towards the centre of which lies an extremely small embryonic rudiment. The ovum, although imbedded, is not yet attached to the decidua. An unusually clear history has been obtained, which appears to afford a fresh starting point for the estimation of the age of young ova in general. The age of the present ovum is estimated at from 13 to 14 days from fertilisation.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

Demonstration of Experiments.

A MEETING of this section was held on June 27th, on the invitation of Professor A. R. Cushny, in the Pharmacological Laboratory of University College, London, Dr. T. E. BURTON BROWN, the President, being in the chair.

Professor CUSHNY showed some most interesting experiments demonstrating graphically the effect produced on a dog's heart (the animal being in a condition of complete anæsthesia) by the administration of certain drugs such as chloroform, when the heart's action weakened, ether, and pilocarpine.

The museum of the College was visited and the valuable exhibition of Egyptian antiquities collected by Professor Flinders Petrie was viewed.

Reviews and Notices of Books.

Gynecology and Abdominal Surgery. Edited by HOWARD A. KELLY, M.D., F.R.C.S. Edin. (Hon.), Professor of Gynæcologic Surgery at the Johns Hopkins University; and CHARLES P. NOBLE, M.D., Clinical Professor of Gynæcology at the Women's Medical College, Philadelphia. Illustrated by HERMAN BECKER, MAX BRÖDEL, and others. London and Philadelphia: W. B. Saunders Company. 1907. Vol. I. Pp. 851.

IN the preface to this work the editors point out that the great advances made in gynæcology have constituted the very backbone of the abdominal surgery of to-day, and that *pari passu* with the labours of the gynæcologists have gone the developments of the abdominal surgery of the abdomen as a whole. That the operating gynæcologist should have had a thorough training in general surgery is an essential which is liable to be overlooked by some writers, and the likelihood of an abdominal operation, even when undertaken apparently for the simplest gynæcological affection, calling for the exercise of the highest skill of the general surgeon is no small one. The present work, therefore, seems to us to be of value in the stress which it lays on the close relationship between general abdominal surgery and gynæcology.

The first chapter on gynæcological technique is written by Professor Howard Kelly and contains a complete account of the various methods of sterilisation. The scientific basis of gynæcology is set forth in two chapters concerned with the bacteriology and pathology of the diseases of women. This arrangement leads to a certain amount of repetition, but as regards the pathological anatomy of the various affections this is more than compensated for by the excellence of the chapter on pathology which is contributed by Dr. Elizabeth Hurdon.

In the chapter devoted to medical gynæcology, by Dr. Charles P. Noble and Dr. Brooke M. Anspach, such conditions as disorders of menstruation, inflammatory affections and infections of the pelvic organs, and displacements of the uterus are considered, as well as the various neuroses which may be met with in gynæcological patients.

The next chapter is headed Non-plastic Operations on the Vulva and Vagina, and is written by Dr. Anna M. Fullerton. In this are included such different processes as inflammatory diseases, ulcerative processes, hypertrophy, and atrophy of tissues and new growths. The important subjects of plastic operations on the perineum, vagina, and vulva are fully discussed in the next chapter by Dr. Noble who deals with them at considerable length. He prefers Emmet's operation in the treatment of cases of relaxed vaginal outlet and thinks that it is better than Tait's flap-splitting operation, because the latter does not afford any satisfactory means of disposing of a rectocele and of securing union of the torn or separated fibres of the levator ani muscle. In the treatment of cases of chronic inversion of the uterus discission of the cervix, followed if necessary by incision of the body of the uterus from below upwards, is preferred to Küstner's operation.

The section on the diseases of the bladder and urethra, by

Dr. Guy L. Hunner, contains a very good account of cystoscopy as practised with Kelly's cystoscope. The author gives several useful hints in the manipulation of this instrument which should prove of service to the beginner. In the treatment of cases of tuberculous disease of the bladder the method suggested by Casper of using solutions of perchloride of mercury in place of silver nitrate is approved of. In the closure of simple vesico-vaginal fistulæ Dr. Hunner uses no anæsthetic beyond a hypodermic injection of morphine. In discussing the surgical treatment of vesico-vaginal fistulæ Professor Kelly points out that the best proof of the progress made in the last 40 years in the treatment of these distressing cases is the fact that the operation of colpocleisis is practically never performed at the present day. Some interesting examples of ingenuity displayed in the restoration of the destroyed urethra are given by the author and Dr. Noble and they are good illustrations of what can be done even in apparently the most unfavourable cases.

For the young surgeon the preparation and after-treatment of his cœliotomy cases is always a matter of much importance and the excellent chapters contributed by Dr. Noble on these subjects will repay perusal. How thoroughly the book has been compiled is illustrated by the fact that a special chapter on the methods of closure of the abdominal wound is contributed by the same author. Dr. Noble favours suture of the layers of the abdominal wall separately and uses for this purpose cumol catgut. He claims that this method minimises the risk both of suppuration of the wound and of the occurrence of post-operative hernia. In the treatment of cases of retro-displacements of the uterus he reports very favourably of the Alexander-Adams operation. In some 200 instances of this procedure he has seen no herniæ following the operation, and the only complication noticed during pregnancy was some complaint of tugging in the groins caused by the traction of the enlarging uterus upon the shortened ligaments.

Dr. Alexander J. C. Skene writes on ovariotomy and in the list of contraindications which is given by him we note extreme flatulent distension of the bowels; this hardly appears to us an adequate reason for not removing an ovarian cyst when it is present. The opinion expressed by Dr. Henry T. Byford that posterior colpotomy is usually preferable to anterior colpotomy in carrying out vaginal section for diseased ovaries and tubes is not that held by most operators. As Wertheim points out in his book on vagino-peritoneal operations in the operative treatment of the normal pelvic organs the anterior route is always preferable, and in the majority of pathological conditions it is to be preferred to the posterior. Dr. Byford agrees, however, with Wertheim in recommending that the fundus uteri should not be delivered into the vagina but only the adnexæ. Dr. Clarence Webster gives an excellent account of the various operations which may be performed for removal of the uterine appendages. The important question as to whether the uterus should be removed as well as the appendages in cases in which the latter require extirpation is examined critically by Dr. J. M. Baldy. He is unreservedly in favour of the hysterectomy, and maintains that the removal of the uterus not only lessens the mortality of the operation but also renders the convalescence smoother, easier, and more satisfactory. In 223 cases which he has collected the death-rate was only 2·68 per cent. The numerous advantages of treating cases of pelvic abscesses by vaginal incision and drainage are becoming more and more appreciated by gynæcologists at the present time, and Dr. Noble has shown that there is a mortality of some 27 per cent. in cases treated by the abdominal route as contrasted with a mortality of only about 2 per cent. in patients treated by vaginal incision and drainage.

Two chapters on the operative treatment of fibroid tumours are contributed by Dr. Noble. He is so well known as an authority on this particular branch of gynæcology that we need not say that these chapters contain all that there is to be said on this subject. Dr. Noble is of opinion that the chance of cancer developing in the cervix is so small that he prefers to leave it and to perform whenever possible a supravaginal amputation of the body of the uterus. He is in favour of myomectomy in suitable instances and has performed abdominal myomectomy himself in some 8 per cent. of his cases. These figures are in marked contrast to those of Professor Kelly who has done 306 abdominal myomectomies and 691 hysteromyomectomies. A table is given showing the results of 643 hysteromyomectomies and abdominal myomectomies with a mortality of 13 or 2 per cent., a figure which, of course, only shows the danger of these operations in the hands of the best surgeons, for, as Dr. Noble points out, these figures by no means represent the mortality of these operations when performed by inexperienced and untrained surgeons.

Undoubtedly the most important question at the present time in gynæcology is that relating to the operative treatment of cancer of the cervix uteri. In a chapter entitled "Radical Abdominal Hysterectomy for Cancer of the Uterus," Dr. John G. Clark discusses the whole question very fully. He is unreservedly in favour of the radical abdominal operation and recommends it in all suitable cases. In interesting contrast to this chapter is the next one in which the Byrne method of treating carcinoma of the uterus is described by Dr. Werder. It is appropriate that in such a volume as the present written by American surgeons the important work accomplished by Byrne should be duly recognised. The principle which he so earnestly advocated—namely, that all incisions in the extirpation of cancerous tumours should be made by the cautery knife—is one which is now followed by many surgeons and is without doubt a procedure of great importance. When we read this account and realise how good were both the immediate and also the remote results of his operations it is surprising to think how few gynæcologists know anything of his work or are ready to give him the great credit which he deserves. There can be no question that early cases of carcinoma of the cervix are better treated by Byrne's method than by any other, inappropriate as it must be to more extensive growths, although even here the principle of always using the cautery in place of the scissors or knife still holds good. Dr. Werder describes an excellent modification of Byrne's operation designed to suit the needs of modern surgery. The remaining chapters are on Vaginal Hysterectomy, from the pen of Dr. Fernand Henrotin, and a chapter on the Conservative Treatment of the Tubes and Ovaries by Professor Kelly who in conjunction with Dr. Elizabeth Hurdon has written the final chapter in this volume on Operations before Puberty.

The book contains a great deal of information and is beautifully illustrated, the drawings being mainly the work of the well-known artists Herman Becker and Max Brödel. The whole is a most valuable addition to gynæcological literature and forms a striking testimony to the good work being done by the American school of gynæcologists.

The Diagnosis and Treatment of Pulmonary Tuberculosis. By FRANCIS M. POTTENGER, A.M., M.D., Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California; Professor of Clinical Medicine, Medical Department, University of Southern California. London: Baillière, Tindall, and Cox. 1908. Pp. 377. Price 15*s.*

IN the introductory remarks to this work the author says: "As yet, however, no book has appeared which endeavours to give a full discussion of the diagnosis, both early and late, of tuberculosis, nor has any of them considered the treatment of tuberculosis in the light of modern studies in immunity." This statement is too sweeping. Many books have appeared in this and other countries containing chapters or sections dealing fully with the diagnosis of pulmonary tuberculosis, and the treatment of the disease by tuberculin and other allied preparations has received careful attention. Very wisely no one method of treatment has yet obtained general acceptance, thus indicating that therapeutic measures based on the theory of immunity are still on their trial. The advances which have already been made since Dr. Pottenger completed the writing of this book will necessitate material alterations in any future edition, especially in regard to auto-inoculation, as illustrated by the employment of regulated manual labour in connexion with ordinary "sanatorium" methods.

In the first chapter some observations are made upon the facts that tuberculosis often remains unrecognised and that the disease may undergo spontaneous cure. These facts are proved by experience in the post-mortem room, but there may be a tendency to err in the opposite direction and to make a diagnosis of tuberculosis when such a condition is not present. For instance, Dr. Pottenger remarks: "There is no question but that neurasthenia in young girls is often due to a tuberculous deposit in the lung." We doubt whether clinical experience would substantiate this. In some cases of early tubercle neurotic symptoms may be prominent but it is questionable whether the connexion between the two is so common as the author suggests. We agree with his views as to the "picture of tuberculosis," as he terms it—namely, that it is a localised infection which every now and then shows a tendency to spread to new tissue, especially to that surrounding the parts affected. With the infection of new tissue symptoms either slight or severe, may be produced according to the area involved, the toxins produced, and the susceptibility of the individual. As Dr. Pottenger aptly expresses it: "The picture is that of a series of quiescences and activities."

A good description is given of the signs and symptoms of early pulmonary tuberculosis and it is rightly suggested that they must be carefully considered and their proper importance conceded to them before a diagnosis is arrived at; for it is self-evident that one or even several of them may be present and yet the patient may be not suffering from tuberculosis. Nor is it enough to know that a tuberculous process is present; it is equally important to know whether such a process is active or quiescent. In the portion of the work devoted to the question of diagnosis all the necessary points to be observed are carefully described and discussed.

Dr. Pottenger gives a full description of the stethoscope which he employs. The chest-piece differs from any of those which we have hitherto seen. It is made of hard rubber and has two chambers, one in the centre with which the ear-pieces are connected and an outside one connected with a rubber bulb. By pressing the air out of the bulb a partial vacuum is formed in the outer chamber, so that when it is pressed on the chest wall it is held by the suction caused by the attempt of the bulb to expand. The outer chamber is said to act as a barrier to extraneous sounds and its suction action to afford exact conditions for comparison at different examinations, by avoiding differences of pressure on the chest.

The consideration of the various forms of treatment of pulmonary tuberculosis is full and detailed. A moderate tone prevails throughout; the anticipation of results is neither too optimistic nor too pessimistic. The remarks on diet, too, are sound and reasonable, and due caution is enjoined with regard to over-feeding. The question as to what is meant by "cure" is discussed, and the author maintains that the only trustworthy test as to whether or not the patient is cured is the tuberculin test.

We have perused this work with interest, and although there are some points upon which we cannot agree with the author, we consider that the book as a whole contains valuable information and advice.

An Elementary Course of Zoology. By W. N. PARKER and the late T. JEFFERY PARKER. Second edition. London: Macmillan and Co. 1908. Pp. 624. Price 10*s.* 6*d.* net.

THE second edition of this now well-known guide to practical zoology differs in only a few points from the first. Monocystis has been added as an example of the Sporozoa, while the student is guarded against forming too narrow a conception of the annulate worms by an account of the marine form Nereis being appended to the description of the common earthworm. In addition to this Obelia has been chosen in place of Bourgainvillea to follow Hydra as an example of the hydroid polypes. All teachers of biology and very many students know the book and to them no commendation is necessary. Those students who do not know it we would strongly advise to look at it before deciding on a laboratory manual, because, in our opinion, it is the very thing which a student wants. It is written by two men with a long experience of the needs and difficulties of students as well as with a real knowledge and love of their subject, while the clear and simply worded descriptions always lead up to some important generalisation which a student of average capacity generally grasps before it is definitely enunciated.

From the point of view of the teacher of biology in a medical school the ever present danger is that biology may become a "cram" subject instead of an intellectual training. The facts themselves to a medical man are perhaps trivial but the training derived from observing those facts and deducing general laws from them is of the highest value and makes the future teaching of anatomy and physiology far more easy and pleasant alike to the teacher and the taught. We believe that students seldom read the introductions to books, but we wish that they would make an exception in the case of this one and realise that biology, although it unfortunately has to be taught solely in a laboratory and has a dreaded examination as its apparent goal, is nothing more than the systematised continuation of those observations on the habits and external appearances of animals and plants which every healthy-minded boy has made and has taken pleasure in making.

The plan of the work remains as before. More than a third of it is devoted to the frog which is used as the type of a vertebrate animal and serves as a peg on which to hang the main facts of vertebrate morphology and physiology. Then follow the various types of animals, beginning with amœba and ending with the rabbit. The working directions are so clear that, given the actual types, a student could master the subject without a teacher if no teacher were to be had. Without practical work, however, as the authors more than hint, biology were better left alone.

Shaw's Manual of the Vaccination Law, containing the Vaccination Acts, 1867, 1871, 1874, 1898, and 1907; the Vaccination Orders, 1898, 1899, 1905, and 1907; and the Instructional Circulars and Memoranda issued by the Local Government Board. With Introduction, Notes, and Index by JOHN LITHIBY, C.B., LL.B. of the Middle Temple, Barrister-at-Law. Eighth edition. London: Butterworth and Co.; Shaw and Sons. 1908. Pp. 285 + 31.

VACCINATION and the legal obligation to submit children to it may not afford a vast field to the lawyer but they have certainly given the opportunity for fierce forensic struggles.

These have not always been confined to the police courts, but on the whole the law of vaccination intimately concerns the ordinary citizen and still more so the members of the profession whose duty it is to carry it into effect. These may at any time desire to satisfy themselves as to their position and should welcome the appearance of a fresh edition of so well edited a handbook as "Shaw's Manual." This is its eighth issue, and comparing it with a previous one, the sixth, published in 1898, we find that a decade of legislation has added nearly 100 pages to a small octavo volume. The manual, in addition to Acts, departmental orders, and notes strictly confined to the law of its subject, contains a tersely written and instructive introduction dealing with the history and progressive stages of compulsory vaccination, which can be read with interest by those not desirous of studying sections and clauses with their interpretations in the courts in detail. Ten years ago a new statute had created, or was in course of creating, the "conscientious objector" and the editor then wrote in the spirit of prophesy that whether its operation would be for good or for evil could not with certainty be predicted but that it was not to be looked upon as a final settlement of the vaccination question. He also quoted from the *Times* of August, 1898, an extract from Lord Salisbury's speech in the House of Lords on the subject of the Bill, which may now be read in the light of subsequent events with respect for that statesman's insight and sound sense. The editor writes now: "It has been alleged by many that the change in the method of obtaining exemption will probably diminish the number of children vaccinated. If, however, the Act is followed by results similar to those which attended the exemption clause in the Act of 1898 the number of children vaccinated will be increased rather than diminished." It is not always easy to distinguish between that which is *post hoc* and that which is *propter hoc*, but it is to be hoped that in a future edition of his work Mr. Lithiby will be able to point to the fulfilment of a prediction which he evidently intends. The absence of grounds for seeking and claiming public martyrdom, combined with the spread of intelligent appreciation of the protective measures surrounding modern vaccination, should do much to further such a consequence of the Act of 1907, and also, we may add, to postpone such further legislative changes as would render the present edition of "Shaw's Manual" obsolete. For some years at all events it should prove an efficient guide to those desirous of carrying out smoothly the law as it stands.

LIBRARY TABLE.

Diseases of Children for Nurses, including Infant Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene, and Nursing. By ROBERT S. MCCOMBS, M.D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia, &c. Illustrated. London and Philadelphia: W. B. Saunders Co. 1907. Pp. 431. Price 10*s.* net.—On looking through this book we are compelled to ask the question, What can be the author's idea of the functions of a nurse? In this old-fashioned country there is, we think, an idea prevalent that the duty of a nurse is to carry out the directions of the physician or surgeon intelligently, and that the best nurse is in general she who takes least upon herself in the way of unauthorised treatment. The author would seem to think very differently if we are to judge from the material of his book. Not only is the nurse apparently to be able to diagnose diseases but also to treat them on her own account. At least, we cannot otherwise explain the need for coloured diagrams of the various rashes which accompany the infective fevers, among which is even included so rare a condition as diphtheria of the lips, or the list of doses and actions of drugs, including a rule as to graduating the dose according to the age of the child. Indeed, in the presence of an emergency, such as heart failure, the nurse is directed to administer 1-200th grain (*sic*) of nitroglycerine hypodermically, and in asphyxia (seemingly regardless of the cause) atropine and strychnine. Some more or less complicated formulæ are also given for calculating the ingredients in artificial feeding of infants, a matter, again, which should be regulated by the physician, not by the nurse. Very vigorous treatment is occasionally recommended, as, for example, the application of "flagellation" or "spanking," to a child with bronchitis which "may be continued for several hours." We fear that some of the medical statements which the author makes to his readers are scarcely as up to date as the nurses whom he would produce. Thus, we do not think that any serious authorities will agree with him in the assertion that rheumatism is due to excess of uric acid in the system, while the statement that the night air is charged with the miasm of malaria appears to rest on an exploded theory. Indeed, the author himself admits that the bite of the mosquito is the common, but apparently not the sole, cause of infection. We have felt bound to draw attention to these features of the book, as we certainly hope that it will not be taken as a guide in these respects by any nurses in this country. Nevertheless, it has also useful features, notably the illustrations showing the nurse's part in some procedures such as intubation, tracheotomy, nasal douching, and so forth.

Grundriss und Atlas der Speziellen Chirurgie. (*Outline and Atlas of Special Surgery.*) By Professor Dr. GEORG SULTAN. Part 1. With 40 coloured plates and 218 illustrations. Munich: J. F. Lehmann. 1907. Pp. 459. Price 16 marks.—Lehmann's handbooks are very well known and we have often spoken warmly in praise of them. This new volume is a worthy follower of the others. It gives a brief sketch of the regional surgery of the head, neck, thorax, and spine; the surgery of the remainder of the body will appear in the second volume. The chief value of the works of this series lies in the illustrations, and it would be difficult to overpraise those given in this volume. The coloured illustrations are the most successful but those in black and white do not lag far behind. We commend this book to all students who read German, but even for those who are unacquainted with that language the illustrations will prove of use.

Synonymik der Dermatologie. (*A Dictionary of Synonyms of Dermatology.*) By Dr. JOHANNES FICH. Vienna and Leipsic: Alfred Hölder. 1908. Pp. 68. Price Marks 1.40. —Dr. Fich tells us that this dictionary of dermatological synonyms was started for his own use, and he has published it that it may prove useful to others. From the earliest days of dermatology it has suffered from a plethora of names and the erudition and energy of succeeding generations of dermatologists have succeeded in piling up a burdensome mass of names, which does much to deter the average student of medicine from obtaining a fair knowledge of the diseases of the skin. This dictionary should be of value in restraining the inventive ardour of the dermatologist. We suggest that at the next International Congress of Dermatologists the question of nomenclature should be considered and an attempt at uniformity might be made.

Science German Course. (University Tutorial Series.) By C. W. PAGET MOFFATT, M.A. Lond., M.B., B.C. Camb. London: W. B. Clive, University Tutorial Press, Limited. 1907. Pp. 228. Price 3*s.* 6*d.*—A fair colloquial knowledge of German is not sufficient to enable an Englishman to read scientific German, and therefore this course will be likely to prove generally useful. There are now, also, many science students who have no knowledge of German, but they have to read works in that language for the study of their branch of science; for these especially some such work as this is almost a necessity. Some very good examples of scientific German are given; they are taken from mathematics, physics, geology, chemistry, botany, and zoology, and a short vocabulary in each of these subjects is appended. We have little to criticise in the book; the only point we will mention is the sentence, "Das Gusseisen lässt sich hämmern." "Cast-iron admits of being hammered." This is certainly true in one way, but the hammering would hardly benefit the cast-iron. Probably the author intended to write "geschmiedetes Eisen," or wrought iron. The greater part of the German in the book is printed in Roman characters, for nowadays nearly all German scientific books are so printed.

JOURNALS AND MAGAZINES.

Beiträge zur Anatomie, Physiologie, Pathologie, und Therapie des Ohres, der Nase, und des Kehlkopfes. Berlin: S. Karger. Price 20 marks per annum.—This is the first number of a journal dealing with the anatomy, physiology, pathology, and treatment of the ear, the nose, and the larynx, edited by Professor A. Passow and Professor K. L Schaefer of Berlin, and it contains articles of much interest. Dr. W. Lange makes a contribution to the Pathological Anatomy of Inflammation of the Labyrinth following Middle Ear Disease. This paper will be especially welcomed by English otologists at the present time, when so much work is being done in diseases of the labyrinth, the more so as Dr. Lange gives full descriptions with the microscopical anatomy of no less than 14 cases In addition to this the article is illustrated by a most beautiful series of micro-photographs. The second article is by Professor A. Passow and deals with the closing of the bony wounds after antral operations. The next paper is by Professor Schaefer of Berlin, with tables showing the influence of various tumours on rapidity of sound travel and length of sound waves in the air, followed by one by Dr. Gutzmann on Fixation and Movement of the Larynx in Speech, Normal and Pathological. Professor A. Schultz. has a paper on the Upper Hearing Limit and its Precise Significance, while Dr. Hermann Beyer contributes a review of the Progress in the Province of the Comparative Anatomy of the Middle Ear. Few journals have started so auspiciously as this one and doubtless it will have a successful future.

# Reports and Analytical Records
FROM
THE LANCET LABORATORY.

SEPTOFORMA.

(UNION, LIMITED, 1, NORTH ST. ANDREW-STREET, EDINBURGH.)

ACCORDING to our examination septoforma is a liquid soap, containing amongst other disinfectant compounds formaldehyde. It has a distinctly alkaline reaction and a slight pungent and somewhat fishy odour. The base of the soap is, according to our analysis, potash. The preparation is agreeable to use and for the purposes of an effective antiseptic solution a dilution of 3 per cent. is sufficient. It is free from the objectionable odour of the ordinary coal tar antiseptics, while further it is a deodorant. Soap entering so largely into its composition septoforma is without corrosive or irritating action. Its practical application is reported (upon favourably.

MEMBROIDS.

EVANS, SONS, LESCHER, AND WEBB, LIMITED, 60, BARTHOLOMEW-CLOSE, LONDON, E.C.)

"Membroids" is the name given to a special administrative form of drug which secures a passage through the stomach but which is dissolved and absorbed in the intestine. In short, the drug is inclosed in a small sac made of two layers of membrane. Experiment *in vitro* readily established the resisting power of the membrane to the action of artificial gastric juice, while the contents soon escape when the membroid is placed in artificial pancreatic juice. The membrane is thus readily peptonised in the intestine but not in the stomach, and so this method is valuable when it is required to administer a drug in the intestinal tract and when that drug, as is often the case, disturbs the gastric organisation. As types of the kind of drug which it is desirable to administer by this method may be mentioned salol, aceto-salicylic acid, and various intestinal antiseptics. The idea succeeds according to clinical practice.

CUSTARD AND BLANC-MANGE POWDERS (PLASMON).

(INTERNATIONAL PLASMON, LIMITED, 66A, FARRINGDON-STREET, LONDON, E.C.)

We have before referred to the dietetic advantage gained by the addition of pure milk protein to ordinary foods. The advantage is particularly obvious in regard to those foods which contain little besides carbohydrates. The addition of plasmon or pure milk protein to these preparations is in accordance with physiological indications. The preparations are variously and pleasantly flavoured.

VARIOUS WHISKIES.

(J. AND G. STEWART, LIMITED, ANDERSON-PLACE, BONNINGTON, EDINBURGH.)

We have examined three different specimens of whisky called respectively (1) Old Highland Liqueur (Nonpareil); (2) Finest Old Vatted Scotch Whisky; and (3) Very Fine Old Vatted Scotch Whisky. Analysis readily indicated in each case that the whiskies were not entirely the product of the pot-still or of malted barley. Nevertheless, there was no indication that they contained any acrid or raw products. They are, in short, well matured and consequently smooth on the palate. The flavour was not very marked and would be described colloquially as thin. The total secondary products did not exceed in any instance 215 parts per 100,000 parts of alcohol present, though in individual examples the ethers were present in good average quantity. They represent the kind of specimens of whisky which some assert are physiologically less harmful than the full-flavoured whisky of the pot-still. The question of the suitability of a pot-still spirit for potable purposes is in our opinion almost entirely one of age. The strength of the whiskies varied from 45·41 per cent. by volume of absolute alcohol to 47·67 per cent. The extractives were in each case low.

LECITHIN (AGFA).

(CHARLES ZIMMERMANN AND CO., 9 AND 10, ST. MARY AT HILL, LONDON, E.C.)

The preparation was a viscid fluid contained in a hermetically sealed ampule. It contains a fifth of its weight of lecithin (Agfa) and four-fifths oil. It dissolved entirely in ether and on oxidation phosphate was readily obtained and recognised. We have received a copy of a paper published in the *Berliner Klinische Wochenschrift* in which the value of this preparation in nervous disorders, tabes, paralysis, and so forth, is referred to.

ATOXYL.

(R. W. GREEFF AND CO., 20, EASTCHEAP, LONDON, E.C.)

Atoxyl represents the most recent form of administering arsenic in organic combination. Its value in trypanosomiasis is well known, but its administration is being extended to other cases of disease in which arsenic has been administered with favourable results. Atoxyl is chemically meta-arsenic anilide and according to the formula $C_6H_5NHAsO_2$ contains 37·67 per cent. of arsenic. We had no difficulty in converting the arsenic into an inorganic form by oxidation and then recognising it by the ordinary tests. Amongst the specimens received were Blaud's atoxyl capsules (each containing three-quarters of a grain atoxyl), atoxyl tablets, and atoxyl sterilised solution for subcutaneous injections. The last was contained in ampules hermetically sealed.

ROYAL FACHINGEN MINERAL WATER.

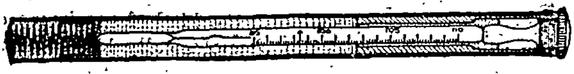
(AGENTS, 6, GREAT ST. HELENS, LONDON, E.C.)

This water, drawn from the springs at Fachingen in the province of Hessen-Nassau, Germany, is peculiarly soft and agreeable to the palate and effervesces slightly with carbonic acid gas. It is distinctly alkaline in reaction and contains in fact the carbonates of the alkaline metals, sodium, magnesium, calcium, and lithium. According to our analysis the total amount of saline constituents per litre was 2·424 grammes. Of this 2·26 consisted of the alkaline carbonates and the rest was chiefly common salt. There were present also traces of bromides and sulphates. The water belongs to that group of mineral waters a course of which is of value in those diseases which are characterised by catarrh of the mucous membrane. Fachingen water has a reputation also in the treatment of chronic catarrh of the bladder and urinary passages.

New Inventions.

AN ANTISEPTIC THERMOMETER CASE.

I SUGGESTED recently to Mr. R. Forge the need of an effective antiseptic thermometer case, and acting on our instructions Messrs. Arnold and Sons have made such a case, its object being to keep the clinical thermometer completely immersed in a dilute antiseptic, when not in use, in the pocket. The case consists of five parts: (1) an outer case, (2) a screw cap, (3) an inner case, and (4) a valve which is supported by (5) a nickel-plated brass spring. It will thus be seen from the illustration that (1) the thermometer while in the case is completely immersed in fluid, and (2) on removing the cap the thermometer rises automatically from the case, the spring-controlled valve closing beneath it, so that none of the fluid can escape. An arrangement is to be fitted into the case by means of which the thermometer will be wiped automatically comparatively dry as it rises up on removing the cap. Two further advantages are attained: (1) the parts of the case can be separately sterilised; and (2) the thermometer, being spring-supported, is less liable to be broken if the case is dropped.



This illustration represents half of the actual size. The case is therefore no larger than a fountain pen, which it can be decorated to resemble. It is made of ivory-grained xylonite, and being white and slightly translucent its working can be seen against the light. Messrs. Arnold and Sons have carried out our ideas in a most careful and satisfactory manner.

S. SMULIAN, M.R.C.S., L.R.C.P. Lond.

Dalston, N.E.

BRITISH MEDICAL BENEVOLENT FUND.

AT the June meeting of the committee 16 applications for help were considered and grants amounting to £170 were made to 15 of the applicants. Appended is an abstract of the cases relieved.

M.D. Lond., aged 66 years. No means, and has been incapacitated for the last few months by paralysis. Two children, aged seven and two years. Voted £18.

Widow, aged 38 years, of L.R.C.P., L.R.C.S. Irel. Quite unprovided for at husband's sudden death two years ago, and now acts as working housekeeper without a salary on a small farm in Ireland. Three children, aged 12 to four years, the two elder being supported and educated by relatives and the younger by the applicant. Voted £10.

M.R.C.S., L.R,C.P., aged 73 years. For several years past has been in bad health and recently had to undergo a serious operation. Now endeavours to support himself and wife by acting as locum tenent. Living in one room, for which three months' rent is owing. No children. Voted £18.

Daughter, aged 59 years, of late M.R.C.S. Receives a Government pension of a few shillings a week and a small yearly grant from a charitable fund. Health very delicate and no relatives who can help. Relieved 11 times, £65. Voted £5.

Widow, aged 45 years, of L.R.C.P., L.R.C.S. Edin. Quite unprovided *for at husband's death* a few years ago. Keeps a small school, but the fees are only a few shillings weekly. Has to provide a home for three out of six children, who contribute as much as their salaries allow. Relieved five times, £60. Voted £10.

Widow, aged 61 years, of L.R.C.P., L.R.C.S. Edin. No income. Used to support herself by taking boarders, but is now dependent on a daughter earning her own living and obliged to be away from home. Relieved once, £12. Voted £12.

Daughter, aged 48 years, of late M.R.C.S., L.S.A. No income. Subject to frequent epileptic seizures which quite prevent any successful attempt to earn a living. Relieved five times, £60. Voted £12.

Widow, aged 60 years, of M.D. St. And. No income. Endeavours to support herself by letting lodgings. Children only able to give very slight help. Relieved four times, £48. Voted £12.

Widow, aged 70 years, of L.F.P.S. Glasg. After husband's death used to support herself by taking resident patients, but is now unable to do this and is dependent on a small weekly allowance made by a son who is a clerk. Relieved once, £12. Voted £5.

Orphan, aged seven years, of late L.R.C.P., L.R.C.S. Edin. At father's death three years ago was taken to the workhouse but was removed by an uncle with whom she now lives but whose earnings are less than 30s. a week. Relieved once, £9. Voted £9, payable to the uncle.

Daughter, aged 62 years, of late L.S.A. Has supported herself for many years as a governess but is now dependent on a small annuity given by a society. Relieved 10 times, £92. Voted £12.

Widow, aged 43 years, of M.R.C.S., L.R.C.P. Income £25 a year. Attempted to support herself by taking boarders but was unsuccessful and now asks for a contribution towards the expenses of returning with her two children to the West Indies, where she has relatives who can help. Relieved once, £5. Voted £5 towards passage money if the relatives will find the balance.

Daughter, aged 62 years, of late M.R.C.S., L.S.A. Mentally deficient and dependent on relatives who can ill afford to help. Relieved twice, £24. Voted £12.

Widow, aged 59 years, of L.F.P.S. Glasg. No income. Endeavours to support herself by selling sweets on commission for a wholesale firm, but owing to ill-health of only daughter, a governess, is in arrears with the rent of her room. Relieved once, £18. Voted £18.

Widow, aged 57 years, of L.R.C.P., L.R.C.S. Nearly blind. No children. No income. Relieved 14 times, £125. Voted £12.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF MEMBERS OF COUNCIL.

THE annual election of members of Council was held on July 2nd at the College in Lincoln's Inn-fields. There were four vacancies and the following Fellows were candidates: Mr. A. Pearce Gould and Mr. W. Harrison Cripps, who applied for re-election, and Mr. George Eastes, Mr. Bilton Pollard, Mr. W. F. Haslam, Mr. C. B. Lockwood, Mr. W. Arbuthnot Lane, and Mr. J. Lynn Thomas, in order of seniority. The voting began at three o'clock and the poll was open for two hours, but only 13 Fellows voted in person. 843 votes were received by post and of these one was invalid and two were too late. The counting of the votes took over one and a half hours and the following was the result:—

	Votes.	Plumpers.
Mr. A. PEARCE GOULD	484	8
Mr. W. ARBUTHNOT LANE ...	406	72
Mr. W. F. HASLAM	331	22
Mr. C. B. LOCKWOOD	331	17
Mr. G. EASTES	320	15
Mr. W. HARRISON CRIPPS	279	3
Mr. BILTON POLLARD	243	11
Mr. J. LYNN THOMAS	219	12

The PRESIDENT declared Mr. Pearce Gould to be re-elected and Mr. Arbuthnot Lane, Mr. Haslam, and Mr. Lockwood to be elected members of the Council of the College.

Mr. H. J. Price and Mr. T. Crisp English acted as scrutineers.

THE MEDICO-LEGAL SOCIETY.—The second annual dinner of this society will be held at the Holborn Restaurant, London, on July 22nd, at 7.30 P.M. The President, Mr. Justice Walton, will be in the chair, and it is expected that several distinguished guests will be present. Tickets (half-a-guinea each) for members and their friends may be obtained from the honorary secretaries, Dr. S. B. Atkinson, 10, Adelphi-terrace, W.C., and Mr. D. Cotes-Preedy, 2, Elm-court, Temple, E.C.

THE LANCET.

LONDON: SATURDAY, JULY 11, 1908.

Preservatives in Meat Foods.

THE report recently issued by the Medical Department of the Local Government Board on preservatives in meat foods packed in cans or glass seems to us to demand a fresh consideration of the whole question of food preservation by chemical means. The temptation to use preservatives must be very strong when, as this report states, they are found to be present in meat foods which are submitted to a process of sterilisation. The obvious suggestion is that the preservatives are used for an undesirable purpose. Apart from the questions as to whether certain preservatives are or are not harmless, their presence in the circumstances just stated probably signifies that the meat required some kind of treatment in order to correct an unwholesome condition in regard to it or to negative perhaps an undesirable change which may threaten to take place during the process of manufacture. It is quite clear at any rate that sterilisation must be the last operation concerned, because that can only be done when the foods are hermetically sealed in the tins. Preservatives are therefore used probably as a preliminary precaution to keep the meat in a condition which, at any rate, makes it appear to be wholesome. Various circumstances which we are told come to light from time to time as the result of action by local authorities suggest that a lucrative trade is sometimes done in meat which has been purchased at a time when fresh meats have reached the limit of their keeping powers. This fact opens up a promising field for the manufacturer of preservatives who loses little opportunity in pressing the claims of his goods upon those engaged in the various branches of the trade in meat-food products. As Dr. A. W. J. MACFADDEN points out in his report, these antiseptic materials are often sold under fancy names, with nothing to guide the purchaser as to their composition, and are often accompanied by a sort of guarantee to the effect that their use in accordance with directions given will not entail liability to prosecution. There can be little doubt that the great saving in trouble and material which is held out as an inducement to users of these substances and the harmless, not to say beneficial, effects which they are stated to have on those who consume them in food have had weight with a certain class of manufacturers of preserved meat.

Another interesting and important point alluded to in the report is the penetrative power of preservatives when used as a packing material. It appears from a number of experiments made by Mr. P. A. ELLIS RICHARDS, F.I.C., that boric acid, for example, which has bee[illegible] with hams for a period of three or four we[illegible] more does actually penetrate their substance to a very considerable degree. Such a definite result disposes entirely of the contention that penetration beyond the surface, except to the smallest extent, does not take place. Moreover, the samples of hams dealt with were washed and brushed before the chemical examination was started, and notwithstanding this treatment there were found in the skin covering the fat as much as from 13 to 24 grains of boric acid per pound, and in the outer half-inch of the lean side of the hams amounts varying from 19 to 45 grains per pound. Even after boiling in the way ordinarily employed large amounts of boric acid were still observed to be present in the outer layers of the lean portions of two hams. Throughout the entire mass of the meat the preservative was demonstrated and even in the most remote parts of the muscular substance quantities varying from two to 15 grains per pound were noted. While, however, muscular tissue appears to be liable to extensive penetration the amount absorbed by the large mass of fat forming the upper portion of the ham is small.

The lessons of this report are striking enough and the opinion which we have often expressed in these columns that the protection afforded to the British public against preservatives in foods is far from being adequate again receives endorsement. This country has not even settled for itself official standards in regard to this matter and at the present time only the recommendations of a departmental committee which reported eight years ago can be referred to as being to some extent authoritative. These recommendations need to become statutory, and British requirements should be specified in such a way that foreign and colonial manufacturers and officials can have no difficulty in understanding as to what the public health authorities in this country expect them to avoid or to do in regard to the use of preservatives.

◆

The Recent Low Urban Death-rate.

JUDGED by the low mean rate of mortality during April, May, and June, in the 76 large English towns for which the Registrar-General publishes weekly returns, the health condition of their aggregate population, now exceeding 16,000,000, was exceptionally favourable during the past spring quarter. The mean annual death-rate in these towns during the 13 weeks ending on June 27th did not exceed 13·8 per 1000, against an average rate of 15·0 in the five preceding corresponding periods of 1903–07, the lowest rate in these five spring quarters being 14·7 per 1000 in 1905. The mean temperature of the air at the Royal Observatory, Greenwich, during the 13 weeks was 52·4° and 0·3° below the average temperature of the same period in 65 years. The mean temperature was considerably below the average in April, and was slightly below the average during the last three weeks of June; whereas a considerable excess of temperature prevailed during May and the first week of June. The measured rainfall at Greenwich was 6·06 inches, exceeding the average in

an half an inch. The
ne during the 13 weeks
rded amount in the same
urs, and the average amount
of recent years by 87½ hours.
unfavourable effect on the public
nably cold and trying weather in
ssive mortality from diseases of the
s and increased fatality of measles
cough, was fully counterbalanced by the
effe exceptionally fine weather and bright sunshine
during ay and the greater part of June. It does not, however, appear that any considerable proportion of the marked reduction in the rate of urban mortality during last quarter can reasonably be attributed to unusually favourable meteorological conditions. The mean annual death-rate from the principal epidemic diseases in the 76 towns during the quarter did not exceed 1·12 per 1000, against 1·45 and 1·58 in the corresponding periods of 1906 and 1907. The recorded deaths in these towns from measles, scarlet fever, diphtheria, whooping-cough, "fever," and diarrhœa during last quarter were from each disease considerably below the mean number in recent corresponding periods. Infant mortality in these towns, which had been equal to 108 and 110 per 1000 births registered in the spring quarters of 1906 and 1907, declined to 100 per 1000 in the quarter just ended. These facts seem to point conclusively to continued improvement in the sanitary condition of our large urban population. It is not without interest to note that while the death-rate during last quarter did not exceed 13·8 per 1000 in the 76 English towns, it was equal to 16·4 in the eight principal Scotch towns, and to no less than 20·1 in the 22 Irish towns respecting which the Registrar-General for Ireland reports weekly; thus, compared with the mean rate in the English towns the urban death-rate showed last quarter an excess of 18·8 per cent. in the Scotch towns and of 45·7 per cent. in the Irish towns. Having regard to the fact that the mean population of both the Scotch and the Irish towns is considerably smaller than that of the English towns, the marked excess of urban mortality in Scotland and Ireland forcibly suggests the conclusion that improved sanitation has not made the same progress in those parts of the United Kingdom as in England and Wales. A comparison of the mortality statistics of London, Edinburgh, and Dublin points to the same conclusion. The death-rate among the nearly 5,000,000 of persons residing within the County of London during the 13 weeks ending on June 27th last did not exceed 13·3 per 1000; whereas in Edinburgh, with an estimated population of 350,524, the death-rate was equal to 15·5, and in Dublin, with an estimated population of 394,525, it was equal to 20·1 per 1000. Thus in equal numbers living, for each 100 deaths registered last quarter in London 117 deaths occurred in Edinburgh and 153 in Dublin. This startling excess of recent urban mortality in Ireland, which cannot unfortunately be regarded as exceptional in view of the light thrown upon defective sanitary organisation by the recent Belfast report, urgently calls for exhaustive public inquiry.

The Treatment of Shock.

THERE are many problems in surgery in the solution of which physiological experiment can be of the greatest service. Empirically there has grown up a mass of therapeutic measures designed to deal with complications that may occur, and in regard to most of these it is difficult indeed to say which are really of value. There is probably no more common cause of death after operation nowadays than shock. Thanks to modern surgical methods sepsis has lost its former pre-eminence as a cause of death in cases where an operation has been performed, but in the prevention and treatment of shock little progress has been made until recently. Every surgeon and every anæsthetist has certain methods of treatment of shock, but many of them fail utterly when put to the test. The vital importance of the matter must be acknowledged by all, for it may be that the very methods which we employ are increasing in place of retarding the shock which we try to treat. Here is the office of applied physiology; by judicious experiment we can investigate the true value of our methods of treatment and then our therapeusis will rest on a firm basis. In a paper recently read before the London Hospital Medical Society and published in our columns (see p. 85) Mr. A. J. WALTON showed conclusively the immense value of the aid that physiological experiment can give to surgery in the solution of these difficult problems.

All pathologists are now agreed that in shock there is a marked fall of blood pressure and that this fall is brought about partly by the weakening of the heart but chiefly by a great dilatation of the vessels of the splanchnic area. Some use the term collapse as synonymous with shock, but more generally it is applied to the condition when the shock has had added to it a marked loss of blood or a loss of fluid from the vessels by transudation. The fall of blood pressure is due to the trauma which acts by impulses conveyed by the afferent nerves to the vaso-motor centres, and this is shown by various facts. The amount of shock is directly proportional to the amount of injury to the nerves of a region, and, further, the more specialised and the more abundant the nerve-supply of a part the more readily is shock produced when that part is subjected to injury. Cutting a limb produces much less shock than crushing a limb. When previously to the injury the main afferent paths are cocainised the resulting fall of blood pressure and shock are of little importance, even when severe injury is employed. The most significant fact is that the amount of shock depends on the part injured. In some parts, as the skin of the limbs, the first effect of an incision is to cause a rise of blood pressure, but as the injury increases in severity the rise is replaced by a fall. When the abdomen is opened the mere incision of the tissues of the abdominal wall and the exposure of the contents of the abdomen are sufficient to produce a marked fall in the peripheral blood pressure with symptoms of shock; this fall can be at once checked by the application of warm saline solution to the peritoneal cavity. Experiments show that this fall of blood pressure resulting from injury is due to paralysis of the vaso-constrictor centre. We have, therefore, been enabled to obtain a very exact notion of the essential nature of shock: it is a decrease in blood pressure, which is caused by dilatation of the splanchnic area, resulting from multiple afferent impulses; these afferent impulses may cause a temporary action of the vaso-constrictor centre, but the centre is soon paralysed and the peripheral vessels dilate. A further complication may be present—a decrease in the total amount of the fluid constituents of the blood, and this materially increases the difficulties of the circulation. These experimental results have been obtained from animals, but all observations show that the conditions are the same in man. In an excision of the breast with much traction on the brachial plexus the blood pressure has been observed to fall from 135 to 60 millimetres of mercury. The chief factors which determine the amount of shock are of importance. As the length of the operation increases, the fall of blood pressure increases also; and it is clear that, so far as is consistent with efficiency, the operation should be as brief as possible, especially in the old, in the ill-fed, and in the debilitated. The organ involved is of the greatest moment in determining the amount of shock, and when the abdomen or brain is involved the fall of blood pressure is very great. Anæsthetics have much influence and their action is two-fold. Inasmuch as they produce unconsciousness, they block the afferent impulses and thus have a very definite effect in diminishing shock. It must not, however, be forgotten that an anæsthetic may in itself have a toxic action on the vaso-constrictor centres. With ether there is no fall but a steady rise of blood pressure throughout the whole course of the operation, and this is not due to any stimulant action of the drug. If any fall occurs it is due to the operation itself. On the other hand, the administration of chloroform is accompanied by a steady fall of blood pressure from the very beginning of the operation to the end. This fact is of very great importance. Spinal anæsthesia has been shown not to cause *per se* the slightest fall in blood pressure, and even in old and exhausted patients operations may be performed under spinal anæsthesia with remarkably little shock.

All this is the theory of shock in operations; how can we apply it in practice? We must start from the preparation of the patient for operation. Drastic purgation must not be employed, for it has a very definite effect in lowering blood pressure, and prolonged fasting previously to an operation is equally or even more harmful. Whenever possible ether should be preferred to chloroform, or if ether be contra-indicated spinal anæsthesia should, from the point of view of prevention of shock, be employed when possible. CRILE devised a "pneumatic suit" in which the patient is enveloped and pressure is maintained on the surface; this certainly tends to diminish shock but we are not aware that it has been much employed. Cocaine has been injected into the main nerve trunks previously to large amputations, and the fall of blood pressure has been greatly reduced; the method seems to be worthy of a trial in suitable cases. The maintenance of the bodily heat is also of importance, though it has not been shown that loss of temperature is a definite causative factor. All these methods of treatment are preventive; but what can be done when shock has already appeared? If there is one remedy which is trusted more than
shock it is strychnine, yet all s
it seems to fail in all the cases in
In health strychnine will raise
stimulating the vasomotor centre, but in
tration of this drug will only serve to ex
rapidly the damaged centre, so that if shoc
strychnine is not only useless but positively d
Other stimulants are equally valueless, and with ether and brandy the fall of blood pressure is even more marked, for these drugs cause a dilatation of the peripheral vessels. Cardiac stimulants will affect only one factor concerned in the maintenance of blood pressure, and increased action of the heart cannot compensate for any marked relaxation of the peripheral resistance. Suprarenal extract has a very evident effect in contracting the peripheral capillaries and so raising the blood pressure, but its effect is transient; and Mr. WALTON is of opinion that the best method of administering it is by continuous rectal injection in saline solution, one drachm of solution of suprarenal extract to a pint of the saline solution—that is to say, 1 in 160,000; the temperature of the liquid should be between 108° and 112° F. and it should be allowed to flow in at the rate of one pint an hour. Ergot, too, is valuable and its effects last longer. The injection of saline solution into the veins or subcutaneous tissue is of very definite value but it can easily be overdone, and Mr. WALTON considers that the maximum amount that may be given intravenously is three pints and by continuous rectal injection not more than from five to eight pints. Raising the foot of the bed 18 inches or two feet tilts the blood from the splanchnic area towards the brain but it would hardly be suitable in a case of localised septic peritonitis. The main doctrine of the paper may be summarised by saying that stimulants of all kinds, but especially strychnine and brandy, must be avoided both before and during an operation; they can have no effect in diminishing shock and they may easily increase it. These facts should be laid to heart by surgeons and anæsthetists, for they rest on a very sure basis of fact. Almost equally important was the second part of the paper in which the author dealt with the rare condition which has been called "peritonism," where all the signs of intestinal obstruction are present but no mechanical obstruction exists. The occurrence of such a condition has been denied but cases of it undoubtedly do occur and they are caused by a paralysis of the bowel. We have not space to follow Mr. WALTON through his discussion of the etiology and treatment of this serious condition but we may draw attention to his recommendation of eserine salicylate which acts directly on the intestinal muscular tissue and not on the exhausted intestinal nerve plexus; it has proved of value in several cases; a dose of one-hundredth of a grain appears to be suitable and six doses may be given. It is curious that in health eserine has hardly any effect on the intestine but it is probable that it can only act when the local centres are paralysed. Mr. WALTON'S paper should be read by all who have to deal with shock; it can hardly fail to prove useful in the treatment of this most serious condition.

received were P'
quarters
st

Annotations.

"Ne quid nimis."

THE TOXICITY OF TOBACCO SMOKE.

SOME years ago we pointed out in these columns that tobacco smoke contained quite a large proportion of the poisonous gas carbon monoxide. If a mere mouthful of tobacco smoke be blown upon a dilute solution of blood a pink colouration at once appears which is characteristic of the compound formed when carbon monoxide unites with hæmoglobin and spoils its healthy function. Subsequently it has been shown that the proportion of carbon monoxide in tobacco smoke is considerable, and it is a question whether nicotine can be held to be responsible at all for the symptoms summed up in the words "tobacco-smoke poisoning." At all events, it is well known that though nicotine exists in tobacco yet a very small proportion of it appears in the tobacco smoke. Undoubtedly there are poisonous oils present, chief of which is pyridin. Pyridin apart, however, it is certain that one of the abundant products of combustion (or rather of incomplete combustion which the production of smoke implies) is the poisonous gas carbon monoxide. It has been calculated in practical experiments that one ounce of tobacco when smoked in the form of cigarettes gives as much as from one pint to four pints of carbon monoxide gas, while the same amount of tobacco smoked in a pipe gives from two and a quarter to five pints of the gas. So far it would appear that the pipe ought to be more pernicious than the cigarette if it were not for the fact that it is practically only with the cigarette that inhalation of the smoke is indulged in. The symptoms of carbon monoxide poisoning resemble in a noteworthy manner the symptoms of tobacco-smoke poisoning. The excessive smoker often develops, for example, a tendency to dizziness and shortness of breath on exertion; there are evidences also of heart disturbance, and he is troubled often enough with palpitation, or, at least, a consciousness of the heart's beating, and the senses, power of judgment and of movement are frequently impaired. In some respects the symptoms of carbon monoxide poisoning resemble those produced by an immoderate or chronic indulgence in alcohol. There can be little doubt, therefore, that the association of smoke and drink is a poisonous one, both conspiring to bring about similar toxic effects. When we consider the quite large amount of carbon monoxide present in tobacco smoke, and compare with this fact that as little as 0·17 per cent. of the gas in the air is fatal to animals, though usually 0·4 per cent. is required, and that anything above 0·15 per cent. is regarded as distinctly dangerous, it is obviously within the bounds of probability that tobacco smoke can be very harmful on account merely of this gaseous constituent. If that is so, what a serious complexion does the habit of inhaling tobacco smoke assume, in which procedure the smoke and the carbon monoxide contained in it are introduced directly into the circulatory system. These facts call forth also an interesting reflection on the headache and drowsy and stupid feelings of the person who has been shut up in a "smoker" on the railway train or in the badly-ventilated atmosphere of the smoking-concert room.

SOME AMERICAN PROPRIETARY REMEDIES.

AT the recent annual meeting of the American Medical Association at Chicago an interesting exhibit was given by the Bureau of Chemistry, Washington. It consisted of samples of packages of a number of medicinal preparations which have been examined by the chemists in the bureau, with brief analytical notes. Of the so-called "prescription proprietaries" Kargon Compound and Marmola were shown; of these the former was found to contain fluid extract of buchu, potassium acetate, methyl salicylate, and sugar, while the latter consisted of thyroid glands, powdered senna, extract of poke root, extract of bladder wrack, citric acid, and sugar. A dentition syrup for babies sold under the name Espey's Syrup was found to contain cocaine; the printed label bore a statement to the effect that half a grain of cocaine muriate was present. A preparation known as Make-man Tablets, which is extensively pushed in the United States, gave evidence of the presence of iron, arsenic, valerianic acid, and hops. A French remedy, Mixture Anti-diabetique (Martin) appeared to consist of apricot kernel oil, and an "anti-gonococcide," known as Serum Bautier, was found to be not a serum at all but a solution of magnesium iodo-phenol sulphonate. Goat Lymph Tablets were found to contain strychnine phosphate, zinc sulphide, extract of muira puama, avenin, and cannabin. Another preparation, styled East Indian Consumption Cure, which claimed to contain cannabis indica as the chief constituent, actually consisted of cinchona bark, opium, ipecacuanha, and Rochelle salts. Liquids labelled Blue and Red Electricity, made in Italy, apparently contained nothing more than ordinary tap-water. Many preparations were shown about which extravagant claims have been made by the proprietors. Of these, Asandrin appears to be a perfumed solution of quinine sulphate with precipitated sulphur; Compound Quinoleum, a mixture of the tinctures of capsicum, cantharides, and cinchona with resorcin; Egg-O-Tone consists largely of Epsom salts and borax with a little sulphate of quinine; Toris Root Compound is a mixture of sodium salicylate, potassium nitrate, and sugar; and Cotandin Compound consists principally of cascara sagrada, hydrochloric acid, and water.

CONVERSAZIONE AT THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ON July 2nd a conversazione was held at the Royal College of Physicians of London, Pall Mall East, when the President, Sir Richard Douglas Powell; the Censors, Dr. D. Ferrier, Dr. J. Mitchell Bruce, Sir T. Clifford Allbutt, and Dr. J. F. Goodhart; the Treasurer, Sir Dyce Duckworth; the Registrar, Dr. Edward Liveing; the Librarian, Dr. J. F. Payne; and a number of Fellows, including Dr. F. W. Pavy, Sir Lauder Brunton, Sir James Reid, and Sir Felix Semon, were present to entertain a number of guests. Among those accepting invitations were the Archdeacon of London, the Vice-Chancellor and the Dean of the Faculty of Medicine of the University of London, the Vicar of St. Martin's-in-the-Fields, the President and Vice-Presidents of the Royal College of Surgeons of England, the President of the Medical Society, the President of the Royal Society of Medicine, the Treasurers of the Hon. Societies of the Middle Temple and of Lincoln's Inn, Professor Sir E. Ray Lankester, the President of the British Medical Association, the Director of the Lister Institute, Surgeon-General A. M. Branfoot, Mr. A. Denman, and a large number of Licentiates. Invitations were sent to all Licentiates of the College who obtained their diplomas prior to the year 1893. During the evening the band of the Royal Artillery played a well-chosen programme of music, while the collection of pictures in the College, itself a noteworthy one, was reinforced by works of art lent for exhibition by Sir Charles Holroyd, Sir John Scott, Mr. Alfred Parsons, Messrs. Dunthorne, Messrs. Colnaghi, and various Fellows of the College, Sir Thomas Barlow, Dr. Norman Moore, Dr. T. Buzzard, Dr. Ferrier, Dr. Seymour Taylor, Sir

William Allchin, and Dr. Payne, among others. The art collection was arranged by Dr. F. G. D. Drewitt, several of whose delightful water-colours were on exhibition, other artistic Fellows whose work was displayed being Dr. Buzzard and Dr. W. R. Dakin.

THE DANGERS OF MERCURIAL INJECTIONS.

Fatal results from injections of mercury in ordinary doses have now been frequently recorded. In France they have often been reported from injections of "grey oil," a preparation of metallic mercury much used in that country. At a meeting of the Société Médicale des Hôpitaux of Paris on March 27th Professor Gaucher reported the following case and *à propos* of it described a form of stomatitis which he regards as peculiar to injections of grey oil and not produced by other preparations of mercury. Gangrene of the mucous membrane of the gums occurs and extends more or less to the mucous membrane of the pharynx, and extending also in depth produces gangrene of the cellular tissue of the neck and necrosis of the lower jaw. Professor Gaucher has found that this variety of stomatitis is unilateral and occurs much more frequently on the right side. It is very fatal and appears to be a variety of the grave mercurial stomatitis of the fifteenth century. A man, aged 45 years, went to hospital on March 22nd, 1907, with all the symptoms of tabes. He had contracted syphilis 20 years previously. Injections were given daily of 0·02 centigramme of benzoate of mercury. In August he ceased to attend, but he returned on Jan. 23rd, 1908, with severe mercurial stomatitis. He could open his mouth with difficulty; the tongue was swollen and the mucous membrane of the mouth was turgid, ulcerated, and covered with saliva which flowed away continually. He had been treated for two months in another hospital and had been given nine injections of grey oil. After the seventh the gums became painful and the pain increased after the eighth. Nevertheless the ninth injection was given. The injections were properly administered and there was no albuminuria. The tabetic symptoms were scarcely affected. Frequent lavage of the mouth with oxygenated water, painting the ulcers with tincture of iodine, and iodo-tannic syrup internally were prescribed. The stomatitis improved a little, but suddenly, on Feb. 11th, it assumed its former severity. A gramme of iodide of potassium was prescribed daily. On the following day, when the inflammation was reduced a little, a greyish gangrenous ulcer could be seen on the mucous membrane of the right cheek, which extended on one side to the gum and border of the tongue and on the other to the palate. In the position of the molar teeth, which were absent, was a greyish sequestrum of the inferior maxilla. In the right submaxillary region was a hard swelling which extended on the external surface of the jaw. The urine contained a trace of albumin and a very small quantity of mercury. The presence of the latter more than a month after the cessation of the injections showed that there was still a source of intoxication. In the right buttock a nodule was found which evidently contained a supply of mercury. On the 27th this was removed and the submaxillary swelling was incised, which caused the escape of sero-sanguineous fluid from the œdematous tissues. The incision was sutured and drained. Slow improvement followed. On March 25th and 26th two large sequestra were removed with forceps. Professor Gaucher pointed out the special danger of injections of grey oil as compared with injections of more soluble preparations. The mercury might accumulate and then suddenly undergo absorption with disastrous results. Thus in a case recorded by M. Lefulle 21 injections were given almost weekly during a period of four months. Only after an interval of 20 days did the last injection provoke fatal stomatitis. In a recent case reported by Professor Gaucher to the Société de Dermatologie 15 injections were given without interruption; then symptoms similar to those of the case related above occurred and terminated fatally. The *forme spéciale de stomatite mercurielle* produced by injections of grey oil has, according to Professor Gaucher, the following characteristics. It begins like an ordinary generalised stomatitis. Then the severity of the symptoms diminishes and the stomatitis becomes localised and necrosis occurs at a point in the maxilla over which the soft parts ulcerate and slough. The bone and the tissues covering it swell and a submaxillary induration is formed. If improvement does not occur the gangrene extends towards the pharynx and trachea, œdema of the glottis results, and tracheotomy becomes necessary. Death from general infection, broncho-pneumonia, or hæmorrhage from ulceration of vessels follows. Treatment consists, in addition to the ordinary measures for stomatitis, in excision of any nodules due to the injections which can be felt or are revealed by radiography, and in incision and drainage of the submaxillary swelling to permit the escape of serum and to prevent œdema of the glottis. But more important is prevention—the disuse of injections of insoluble preparations of mercury.

AN IRISHMAN ON LUCK.

Dr. Maurice Hime is well known to our readers as the head-master of Londonderry School, who for many years has laboured with his pen to improve the moral and physical conditions of his fellows. He has forwarded to us two of his latest publications; the larger of these is an essay upon Luck[1] which he defines at the outset as "an unforeseen occurrence that brings one some advantage, in the happening of which one has had, consciously to oneself, no hand, act, or part," with the reservation that there really is no such thing as "luck" which is nothing but a convenient expression to cloak our ignorance of the How and Why of various occurrences which change the current of our lives. Dr. Hime's thesis is that there is no "luck" in the social and material advantages to which a man may be born, but that to nearly every man, in his life-time and in his degree, real luck holds out a hand, and he who has the sense and energy to grasp it is the so-called lucky man. He quotes a chapter of instances, some truly remarkable, within his own recollection in each of which a stroke of luck has befallen a man and has proved the starting point of a successful career, but he insists that these successes were far more the result of readiness to seize an opportunity than of the occurrence of the opportunity itself. He draws his illustrations from many ranks in life, and he carries his conviction that success attends merit rather than luck so far as to defend the expert golfer who holes out his ball with his tee shot against the accusation of owing his achievement to a mere piece of good fortune. We are inclined to think the author shows a little of the optimism of his race in his estimate of the rewards of simple merit and hard work, especially when he comes to consider the chances of distinction open to an ambitious youngster of low degree. Even in these days of university extensions there must be many a Jude eating out his heart in bitter obscurity, whilst in more favoured classes the quality of pushfulness, though hardly a cardinal virtue, must surely be held accountable for a considerable measure of success in life, and, indeed, to hold the secret of much apparent luck. Surely, too, ill-gotten gains have not always brought their possessors to grief, though they may certainly not have brought such happiness as was worth their acquisition. But Dr. Hime's book is an admirable sermon, and it enforces the oft-forgotten lesson that when "there is nae luck aboot the hoose" it is chiefly the householder who is to blame. Dr. Hime, doffing the philosopher's robe for the councillor's gown, seeks to hammer this important truth into his fellow-townsmen's heads by a little pamphlet cast in catechism form concerning the health and the water-supply of Derry. He considers that ill-luck of the gravest will befall that city if it remains apathetic to the repeated advice of sanitary experts on the need for reforming its water-supply, which has been shown to be quite inadequate in both quantity and quality, and for which an alternative scheme has been proposed. He condemns unreservedly the hygienic sins which are daily committed in the sewage disposal of Londonderry and draws the conclusion that its present death-rate of 17 per 1000 could be reduced appreciably if the civic fathers could be persuaded to pay some heed to the frequent warnings of its medical officer of health. We should like to see a few more laymen with such an intelligent grip of the subject as Councillor Hime possesses, stating the case for communal hygiene with the force of this catechism. A sentence from the answer to its question: "How can we make Derry as perfect a city in regard to health as it is possible to make it?" might be written up with advantage in every council chamber in the kingdom. It runs: "Let us practice economies, by all means, in every direction, consistently with dignity and decency. But whatever economy we practise let it not be at the expense of the health and strength—yea, the very lives of our fellow-citizens." In the safeguarding of men's lives from the assaults of polluted air and foul water luck can play no part, liberal foresight and constant watchfulness can alone avail to meet them.

---

[1] Luck: An Essay on Its Unimportance as an Auxiliary to Success in Life. By Maurice C. Hime, M.A., LL.D. Dublin: Hodges, Figgis, and Co. London: Simpkin, Marshall and Co. Pp. 105. Price 1s.

UNRECOGNISED FRACTURES OF THE HIP.

IN the *Journal of the American Medical Association* of May 16th Dr. A. Soiland has called attention to the fact that fractures of the hip are more common than is supposed and not infrequently are diagnosed as sprains or bruises. The mistake is due to the facts that the cause of the injury is slight, such as a fall from stumbling over an obstacle, that the fragments are often impacted, and that there is such a small amount of shortening that it is undetected. The use of the x rays shows the true nature of such cases. Within the past two months Dr. Soiland has seen three cases in which the mistake was made. The patients limped into his room with only the assistance of a cane. One sought electric treatment for pains about the joint and the others came for a diagnosis by means of the x rays. In one case the patient was a man, aged 40 years, in good health. He was wrestling with a friend and they both fell to the ground. The friend got up unhurt but the patient rose with difficulty, felt weak, and had acute pain in the hip on which he had fallen. Supported by his friend he walked a short distance to a physician's house. As there appeared to be no reason to suspect fracture he was hurriedly examined. A liniment and a few days rest in bed were prescribed. After a week he returned to work, with the hip somewhat swollen and painful. He was able to get about fairly well with a cane. However, after six weeks of more or less suffering he went to Dr. Soiland for electric treatment. A radiogram showed impacted fracture of the neck of the left femur. There was nearly an inch of shortening and the patient still complained of pain from using the leg much. The soft parts about the joint were enlarged and bony union was firm. In the second case a woman, aged 48 years, fell out of bed on the thigh and hip. Though the fall was so insignificant the pain was so great that she went to bed and called in a physician who diagnosed injury of the ligaments of the hip. Hot applications were advised for a few days, after which she was told to get up and to exercise the leg. This caused severe pain and the patient complained that the leg would not bear her weight. As improvement was slow several other physicians were called in who all confirmed the first diagnosis. Meanwhile the hip remained painful and became more swollen and unable to support the body. Electricity was applied and exercise carried out every day but the hip got worse and the general health failed. Change of air was then advised. A skiagram showed an impacted fracture of the neck of the femur. In the third case a man in stepping out of a motor-car fell and injured his hip. A practitioner examined him under anæsthesia and found the femur dislocated, the head lying on the anterior lip of the acetabulum. No crepitus or other signs of fracture could be detected. Reduction was performed and the patient was put to bed. After ample time for repair of the injured structures he was permitted to get up. But on attempting to walk there was considerable pain. Therefore a skiagram was taken. It showed an impacted fracture of the neck of the femur. The moral of these cases is obvious. An apparently slight injury of the hip should not be regarded as trivial. Examination under anæsthesia cannot be depended on, and if sufficient force is used to elicit crepitus in cases of impacted fracture the result may be disastrous. In all doubtful cases a skiagram should be taken.

A DEFINITION OF "IMPOSTOR."

OUR Australian correspondent sends us an account of a recent county-court action in which the judge supported a medical man by good law and sound common-sense. It was a case in which the plaintiff, a "surgical bootmaker," named Muir, sued Mr. W. Kent Hughes, a well-known surgeon of Melbourne, for £49 damages for alleged libel. The alleged libel was contained in a letter which Mr. Hughes wrote to a gentleman who was interesting himself in the treatment of a club-footed boy. Mr. Hughes having been asked to see the boy and informed that a subscription was being made to obtain surgical advice, said that he could not take fees raised by public subscription and offered to treat the boy at the Children's Hospital. The boy attended at the hospital but his relatives declined the operative treatment advised and removed him. Subsequently Mr. Hughes was asked to subscribe to a fund being raised to enable the boy to be treated in another way. In his reply he wrote: "The money, I understand, is being given to an impostor who poses as a foot specialist. I think you have let your philanthropic motives run away with your reason." The trial was concluded recently and Judge Johnston subsequently delivered his reserved judgment in which he found for the defendant on the plea of justification. The judgment contained a most admirable review of the facts adduced in evidence. *Inter alia* his honour said: "I have to decide whether on these facts defendant's letter was a libel on the plaintiff. Mr. McArthur for the defendant has pressed strongly for a finding that the plaintiff is an impostor in the sense that he is a dishonest man. He either knew or ought to have known the consequences of his acts. He has sailed perilously close to the wind. I believe he was conscious of the fact that he had limitations, for there was evidence to corroborate his statement that when he really believed an operation was necessary he suggested that a surgeon should be called in. But I am not satisfied that he was guilty of intentional fraud. Blinded by vanity and biassed in favour of his own methods, he deceived himself, with the result that he imposed on the public. I think, therefore, that the use of the word 'impostor' was justifiable. The word is simply the Latin form of those homely words 'put upon.' I think that suffering members of the public are very much 'put upon' if methods of this kind are to be permitted, and I believe that in this sense the defendant or any other member of the public renders a duty to his fellow members by publishing language which has the effect of characterising such methods even in harsh terms as 'an imposture.'".

COMPLIMENTARY DINNER TO SIR W. WATSON CHEYNE.

THE *students* (present and past) of King's College Hospital have arranged to give a complimentary dinner to Sir W. Watson Cheyne, to congratulate him on the well-merited baronetcy recently bestowed on him. The dinner will take place at the Waldorf Hotel, London, on Friday, July 17th, at 7 for 7.30 P.M. Old King's men have been communicated with as far as possible, but any of them who have not received notices are especially requested to communicate with the secretary of the dinner committee at the hospital. Owing to the large number of acceptances already received it has been found necessary to limit the invitation to old members of King's (staff or students).

NEURITIS OF THE MUSCULO-CUTANEOUS NERVE FROM RUPTURE OF THE BICEPS.

IN the *Journal of the American Medical Association* of May 16th Dr. P. S. Doane has reported an unusual injury and its result—neuritis of the musculo-cutaneous nerve from rupture of the biceps. A builder, aged 55 years, while on a ladder 20 feet from the ground fell. He broke his fall by grasping a projecting beam with the right hand and immediately felt a sharp pain in the right arm. The arm became swollen, but little attention was given to the injury until after the tenth day when intense pain began in the arm. This grew progressively worse and was so intense as to prevent sleep. With some difficulty he could sign cheques and letters. He consulted a physician who used an electric current for one month to relieve the pain without result. The patient was then seen by Dr. Doane who found just above the bend of the elbow on the inner side of the arm a globular mass about five centimetres in diameter, moveable in all directions to a moderate extent but less so downwards. Above it was a marked depression. The mass was thought to be muscular tissue and part of, if not all, the biceps. It was not tender but immediately above it and to its outer aspect was marked tenderness. On the outer side of the forearm there was some anæsthesia. The grip was weak and the arm could not be abducted beyond 45°. Neuritis of the musculo-cutaneous nerve secondary to rupture of the biceps, which it supplies, was diagnosed. As the general condition of the patient was not good an operation was not performed. To relieve the neuritis a bandage was applied below the ruptured muscle which was thus held up to a considerable extent. The arm was bandaged to the trunk so as to relax the muscle and to keep it motionless. After two months the neuritis had disappeared. Examination showed definitely rupture of the long head of the biceps but the condition of the short head could not be determined. The following operation was performed. An incision was made from the lower border of insertion of the pectoralis major downwards for three inches. Dissection showed that the long head of the biceps had been torn from its attachment to the upper border of the glenoid fossa and that contraction had invaginated it into the belly of the muscle. Not finding it possible to replace the long head in its original position Dr. Doane dissected it free from its invagination and adhesions, split the sheath of the short head, freshened the tendon surface of the long head, planted the latter into the short head, and sutured it there with interrupted catgut sutures. The wound was closed and the arm was kept in a flexed position for three weeks by a supporting plaster cast, after which a sling was used. Almost normal use of the arm was regained.

FORESTS AND FAMINE IN INDIA.

A FEW weeks ago there appeared in these columns a note upon the question of afforestation. It was discussed from the point of view of the influence of trees upon climate. If that question is of importance in this country the maintenance and cultivation of forest trees would seem to be of much greater importance to the welfare of the Indian peoples. The subject is ably discussed by Mr. J. Nisbet, formerly a conservator of forests at Burma, in the current number of the *Nineteenth Century*. He points out that the prosperity of India as an agricultural country depends mainly upon the rainfall. Any irregularity in the monsoon currents profoundly affects the crops where their thriving depends solely upon rainfall. Although much has latterly been done by irrigation and the construction of water-tanks there are vast tracts which have to depend entirely on the actual rainfall. Of late years the Government of India has been endeavouring not only to cope with want and famine but to eradicate the causes which bring about these disasters. So long ago as 1846 it was pointed out that in Bombay unrestrained clearances of forest had diminished the fertility of neighbouring gardens and rice lands. Thus the cutting down of trees in the South Konkan caused the springs to dry on the uplands and made the climate drier, the seasons more uncertain, and the land less fertile. In effect a forest acts as a sponge, and when the rain does fall water which would otherwise flow rapidly away is held up and distributed gradually to the adjoining rivers. But apart from this, Mr. Nisbet points out that in time of famine the forest can be thrown open to the villagers and their cattle. An Indian forest produces a number of edible roots and fruits, while the value of the forest as a grazing ground for cattle may be gauged from the fact that during the famine of 1897 nearly 700,000 head of cattle were saved by being turned into the forests of the Deccan. Mr. Nisbet's object in writing this article is to show that, apart from the value of the timber produced, the Indian Government would be well advised to extend the principle of afforestation in the interests of the public health.

POST-OPERATIVE DUODENAL ILEUS.

Professor Leopold Landau, speaking before the Berlin Medical Society, recently discussed the question of duodenal ileus. He said that, notwithstanding the strictest asepsis, peritonitis and ileus still develop sometimes after laparotomy, and it may be difficult to say which part of the intestine is occluded. Lately a good deal of light has been thrown on the matter by the statement of Professor Schnitzler of Vienna that ileus may be produced by strangulation of the duodenum by the superior mesenteric artery which runs behind the pancreas and in front of the duodenum to the root of the mesentery. The symptoms of duodenal ileus are very characteristic and may be met by a very simple proceeding. Professor Landau described the case of a woman upon whom a hysterectomy had been performed for myoma and who three days after the operation suffered from severe collapse, with a thready pulse of 160, stenocardia, and profuse bilious but not fæculent vomiting. There was pronounced meteorism and her state very much resembled acute peritonitis. The stomach-pump gave no relief, so by the advice of Professor Schnitzler she was placed in the abdominal position. Improvement took place almost immediately; an enormous quantity of flatus was discharged by the mouth and rectum, the meteorism disappeared, the pulse became normal, and the patient's comfort was restored. Professor Landau considers the development of duodenal ileus to be favoured by the fact that the duodenum is empty after operations and is therefore easily compressible. He recommends that the bowels should not be moved too vigorously and that the patient should be allowed out of bed as early as possible, even on the second or fourth day after the operation.

COMMEMORATION DAY AT LIVINGSTONE COLLEGE.

COMMEMORATION Day at Livingstone College was held on June 29th in the College buildings at Leyton, Essex, when Sir Patrick Manson, K.C.M.G., F.R.S., delivered an address on "The Importance of Knowledge of Tropical Medicine by Missionaries, especially in View of Recent Discoveries." Additional interest was added to the proceedings by reason of the fact that advantage was taken of the meeting of the Pan-Anglican Congress to invite the episcopal members of the Congress to a reception which was largely attended. The bishops were officially welcomed by the principal of the College, Dr. C. F. Harford, who in a short address pointed out that the College existed primarily to safeguard the health and the lives of missionaries. The Bishop of St. Albans, after joining in the welcome to the bishops, said that the work of Livingstone College was of the greatest utility. From his own experience of the tropics, now nearly 30 years ago, he considered it absolutely necessary that those living in India should have an elementary knowledge of medicine. Sir Patrick Manson, in the course of a very able address, summarised the present-day knowledge of tropical diseases and expressed the opinion in which everyone will concur that those who send out missionaries to work in foreign lands should lay to heart the importance of a knowledge of tropical diseases to a missionary. It was not fair, he said, to anyone to ask a man to go abroad and to face avoidable risks. Martyrdom was one thing, suicide was another, and *murder*, though he did not like to say the word, was a third, yet to send a man abroad to work as a missionary in unhealthy climates and not provide him with proper information as to how to prevent himself being killed—he left his hearers to say what that would be. People had not yet come to recognise; this they would, he thought, by and by. The remedy depended upon the public. The public should demand that such a state of affairs *should be impossible*, whether in missionary or Government circles. Livingstone College, which deals with the special needs of missionaries of widely differing schools of thought, is to be congratulated upon its useful work.

SOME RECENT WORK ON PARASITIC WORMS.

Dr. C. Wardell Stiles and Dr. Joseph Goldberger have recently published a series of papers dealing with parasitic worms.[1] A very peculiar case of parasitism in man was observed in Florida. The worms, which live in the subcutaneous tissue and cause swelling resembling acne, have been determined as very closely related to, and perhaps identical with, Sparganum proliferum. This parasite has been reported on only one former occasion, when it was found in Japan, but its life-history, source of infection, prevention, and treatment are still unknown. Its chief peculiarity is a reproduction in its larval stage by the formation of supernumerary heads, which may become independent and wander through the tissue. In another paper the original specimen of Filaria restiformis is described. It has hitherto been thought to be a parasite from man, but it proves to be an immature horse-hair worm and it is exceedingly doubtful whether it is a parasite of man. In a further paper two new species of trematode are described, Homalogaster philippinensis, collected from the cæcum of cattle in the Philippines, and Agamodistomum nanus, an agamic encysted species collected from the partridge in West Africa. It is not known whether the latter parasite is transmissible to man. The last paper deals with a re-examination of the original specimen of a tapeworm which Weinland described as Tænia solium, var. abietina. Opinions have differed in regard to the exact nature of this parasite, some writers considering that it represented a distinct species, while others held that it was a variety of Tænia solium or of Tænia saginata. The original specimen, consisting of a few segments, is in poor condition, precluding a final judgment as to its exact systematic position. It appears to be a dwarfed specimen of Tænia saginata, of which it is possibly a subspecies. The Bulletin concludes with a magnificent series of illustrations of these parasites, showing their macroscopical and microscopical characters.

TREATMENT OF TUBERCULOSIS OF THE KIDNEY.

BEFORE the Verein für Innere Medicin of Berlin Professor Casper read a paper recently on the treatment of tuberculosis of the kidney. He uttered a warning against tuberculin injections of which the results are uncertain. He considered that nephrectomy was still the best method and stated that out of 42 cases operated upon in that way only five patients had died. The decrease of mortality was due to improved methods of diagnosis; the old method of palpation was not trustworthy but cystoscopy and catheterisation of the ureters in the great majority of cases have made the diagnosis of the functional powers of the kidneys quite certain. But even if neither of these methods were available in order to ascertain if the second kidney were sound, Professor Casper recommended that after exposing the diseased kidney, and before removing it, the ureter should be compressed so that urine should only flow into the bladder from the organ presumed to be healthy. The urine should be drawn off and examined and if it were found to be normal a nephrectomy of the tuberculous kidney might be performed without risk.

UNWHOLESOME MEAT IN RURAL DISTRICTS.

WE have on numerous occasions had reason to call attention to the difficulty which exists in controlling or preventing the sale of unwholesome meat in rural districts, and there can, we imagine, be no question that a considerable amount of the unwholesome meat consigned to our large towns reaches them through the lack of adequate control in rural districts. It is therefore a matter for congratulation to find that in East Sussex considerable vigilance in the matter of meat control is exercised and, as will have been seen from a letter from Mr. Hugh Stott in our correspondence columns of June 27th, the Cuckfield rural district council has recently taken action against a cattle-dealer for slaughtering an animal on unlicensed premises. The defendant, as is so frequently the case, endeavoured to evade justice by raising a technical quibble to the effect that there had been some omission in the process of conferring urban powers upon the rural district council and the bench, misled by the counsel's pleading, dismissed the case. Fortunately, the district council had the courage to appeal against the decision and it was rewarded by the technical point being quashed by the Lord Chief Justice who ruled that it was no more necessary to prove the publication of an Order made 26 years ago than it was necessary for the defendant to prove that no such Order had been made. On the case being further heard before the Haywards Heath bench the defendant was fined £1 and £5 10*s*. 2*d*. costs. We are very glad to see this decision and the district council in question is cordially to be congratulated upon having appealed. The Haywards Heath bench seems determined to protect the public health, and in the case of a butcher charged with exposing meat for sale in an advanced stage of tuberculosis, this bench, although the butcher had a good record, fined the defendant £50 and 5 guineas costs. There is a wholesome ring about this judgment and it looks as if the work of the Royal Commission on Tuberculosis is at last bearing fruit.

---

[1] Bulletin No. 40, Hygienic Laboratory, United States Public Health and Marine Hospital Service, Washington, pp. 40, 1908.

THE DISCOVERY OF THE THERAPEUTIC VALUE OF DIGITALIS BY WILLIAM WITHERINGTON.

In the *Pharmaceutical Journal* of May 23rd Dr. J. Gordon Sharp contributes an article on the *history of foxglove*, a drug which, although used as an external application to sores and ulcers in Saxon times, was not greatly employed internally until about 1775, when Dr. William Witherington discovered its true action. This well-known botanist and therapeutist had observed that country people often cured themselves of dropsy by drinking foxglove tea. He experimented with preparations of the plant and soon found that the success of the drug was due to its diuretic action and not to its purgative or nauseating properties. He afterwards published a book on digitalis[1] and was instrumental in establishing for the drug a reputation so great that it was recognised in the Edinburgh Pharmacopœia of 1783 in the form of an infusion. This preparation, which has been held in high esteem by many clinicians, was really a freshly made weak tincture prepared by macerating one drachm of the dried leaves in eight ounces of boiling water and an ounce of spirit of cinnamon for four hours. It is probable that this so-called infusion contained a larger proportion of the glucosidal constituents of digitalis than is the case with the aqueous infusion which later came into vogue. As hot water dissolves only a trifling proportion of some of the glucosides present in the leaves it would seem that the change was a mistake. Dr. Witherington himself appears to have used only the dried leaves or an aqueous infusion, to which was subsequently added spirit of cinnamon as a preservative. The tincture, however, soon came into use and was included in the pharmacopœias that were issued at the beginning of the nineteenth century. Dr. Witherington's chief work consisted in establishing digitalis on a firm therapeutic basis from which it has never been displaced. The following quotation from his work shows how clearly he understood the action of the drug: "It has a power over the motion of the heart to a degree yet unobserved in any other medicine ...... It seldom succeeds in men ...... of tense fibre, or in those with a tight and cordy pulse. On the contrary, if the pulse be feeble or intermitting, the countenance pale, the lips livid, the skin cold, the swollen belly soft and fluctuating, or the anasarcous limbs pitting readily under the pressure of the finger, we may expect the diuretic effects to follow in a kindly manner." In other words, Dr. Witherington recognised the unsuitableness of digitalis in cases of high tension, but he was aware of its value when the arterial tension was low.

THE Royal Waterloo Hospital for Children and Women is acknowledging the receipt of the munificent gift of £13,105 (the interest on which only can be used) from a donor who wishes to remain anonymous. The most hearty thanks are due from the authorities of the charity for this splendid donation which will considerably lighten their responsibilities at a time when funds are very urgently needed.

IN our last issue we announced that in connexion with the approaching visit to England of French medical men Professor Landouzy would lecture at 20, Hanover-square, London, on July 14th. We now hear with regret that urgent official business will prevent the eminent *savant* from fulfilling this engagement.

THE dinner to members of the Voyages d'Études Médicales will take place at the Hotel Cecil on Thursday, July 16th, at 7.30 P.M., when Dr. George Ogilvie will occupy the chair.

A VISIT TO PROFESSOR WERTHEIM'S CLINIQUE IN VIENNA.

BY ARTHUR H. N. LEWERS, M.D. LOND., F.R.C.P. LOND.,
SENIOR OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

A BELIEF, from all I had read and heard of it, that the more extended operation devised by Professor Wertheim for cases of cancer of the cervix—familiarly known as Wertheim's hysterectomy—is destined to become *the* operation in cases of this kind, which are operable at at all, led me to ask him to give me the opportunity of seeing him perform the operation in the Kaiserin Elisabeth Hospital in Vienna, where his hospital work is carried on. In the kindest way Professor Wertheim arranged to keep three cases of cancer of the cervix for my visit, and I saw him operate on them on three consecutive days—June 9th, 10th, and 11th. He also gave me an opportunity of examining the cases before the operation. The preliminary curetting and cauterising of the growth was done in each case immediately before the operation, and without an anæsthetic. So far as I could judge the patients did not seem to experience any very severe pain. The object of dispensing with an anæsthetic for this preliminary step is to shorten as much as possible the duration of the chloroform narcosis. After the curetting the patient was removed into another operating theatre, and prepared for laparotomy in the usual way. In each of the cases I saw the operation was conducted in the Trendelenburg position, the pelvis being raised to a moderate extent only. In the first and the third cases the patient was under the influence of a general anæsthetic (Billroth's mixture) for the whole of the abdominal operation. In the second case spinal anæsthesia was employed for the first half hour of the operation, after which, as the anæsthetic effect seemed to be wearing off, a general anæsthetic was administered. The first case was a fairly favourable one as regards the degree of advancement of the disease. In it there was some slight "thickening" to the left of the cervix suggesting some extension of the growth into the connective tissue there. I should have regarded the case as too far advanced for vaginal hysterectomy. The third was a very favourable case, the disease being at quite an early stage, requiring the microscope to confirm the diagnosis. In cases such as these I understand Professor Wertheim uses general anæsthesia. The second case, that operated on on June 10th, was about as unfavourable a case as it would be possible to have short of one completely inoperable. The uterus was fixed, and there was a large malignant chasm in the situation of the cervix, the lower edge of which was a long way down on the posterior vaginal wall. The growth seemed to have involved the rectum and bladder. Professor Wertheim himself regarded this case as one in which it was very doubtful if the operation could be performed; at all events, the case was evidently one in which, if the operation were possible, the difficulties would reach a maximum, and the duration of the operation be correspondingly increased. For cases of this kind spinal anæsthesia is employed to shorten the time during which the patient must remain under the influence of a general anæsthetic. It may be added that this case proved to be one of extreme difficulty, necessitating opening the bladder, and an extensive and deep dissection of the posterior vaginal wall from the rectum. The operation was, however, satisfactorily completed, and the whole of the diseased tissue seemed (from a subsequent examination of the specimen) to have been completely removed. In spite of the advanced stage of the disease in this case no enlarged glands were found. In contrast to this it may be mentioned that in the first case, that operated on on June 9th, although, as far as it could be ascertained by examination, the disease was not nearly so advanced as in that just described, an enlarged gland was found on the iliac vessels and removed. On microscopical examination it proved to be infiltrated with cancer. Vaginal hysterectomy in this case would obviously have been useless.

---

[1] *An Account of the Foxglove and Some of its Medical Uses, with Practical Remarks on Dropsy and Other Diseases.* By William Witherington, M.D. London: G. G. J. and J. Robinson. 1785.

The rapidity with which all three operations were completed was very noticeable, and the amount of the bleeding was very slight. Sponging in consequence was quite infrequent. The condition of each of the patients at the conclusion of the operation was also very satisfactory. As regards the first two cases (the second being the extremely difficult case), I saw the patients two days and one day after the operation respectively, and they seemed as well as after a simple ovariotomy.

Professor Wertheim told me that he has now completed more than 500 of the operations under consideration. He has arranged them in groups of 30. In the first 30 cases the mortality exceeded 40 per cent., while in the last 30 it is in the neighbourhood of 7 per cent. At first the operation was restricted to cases too far advanced for vaginal hysterectomy; but the later groups comprise all cases of cancer of the cervix operated on. As regards the after-history, Professor Wertheim has 60 per cent. of his cases free from recurrence after five years. In this calculation I understand that the cases dying from the operation are omitted, and it is to be taken as meaning that of those who recovered from the operation nearly two-thirds are free from recurrence after five years.

The reduction in the mortality in the more recent series is very remarkable. No doubt it is chiefly to be attributed to an improvement in the technique of the operation resulting from so large an experience; partly also to the partial use of spinal anæsthesia in cases where great difficulties are expected. To a less extent it is also to be accounted for by the fact that in the later series the extended operation has been employed for all cases operated on at all; that it has been employed for the early cases in which the operation is so much less difficult and correspondingly less dangerous as well as for the more advanced. The after-results are certainly much more favourable than many English gynæcologists would have been prepared to expect. Even omitting those that died from the operation 60 per cent. of those who survived it free from recurrence after five years makes a very satisfactory record. I had the opportunity of examining two cases that had been operated on some considerable time previously, who had come up to report themselves in the ordinary course. One of these had been operated on more than four years ago: this was a case in which the glands had been affected. The patient was quite well, and no sign of recurrence could be found on examination. The other patient had been operated on more recently, rather less than two years ago; she also was quite well.

The introduction of Wertheim's operation, which renders many relatively advanced and, indeed, some actually very advanced cases of cancer of the cervix operable, should, however, cause no relaxation in our efforts to get cases to seek advice while the disease is in an early stage. The earlier the stage of the disease, the less the mortality of the operation, and the better the prospect as regards after-results. In carefully selected early cases there is no doubt that vaginal hysterectomy, or even the supra-vaginal amputation of the cervix, has been attended with good results as regards the after-history. I have had many cases illustrating this in my own practice. But, even in this class of case, it must obviously be an advantage to make the lines of section employed in removing the diseased tissues as far as possible from the growth, and in Wertheim's operation there is a very much larger margin between these lines of section and the growth than it is possible to obtain in vaginal hysterectomy. The latter operation will, I feel sure, be gradually restricted to those cases in which Wertheim's operation is contra-indicated, as, for instance, in patients over 60 years of age, or in those who are otherwise unfavourable subjects for a severe operation. The fact that Professor Wertheim has been able to reduce his mortality from over 40 per cent. to 7 per cent. cannot fail to encourage those of us here who are already performing the operation, and must surely induce those gynæcologists who have not yet performed it to recognise it as having taken its place among standard gynæcological operations.

THE LIERNUR PNEUMATIC SEWERAGE SYSTEM.

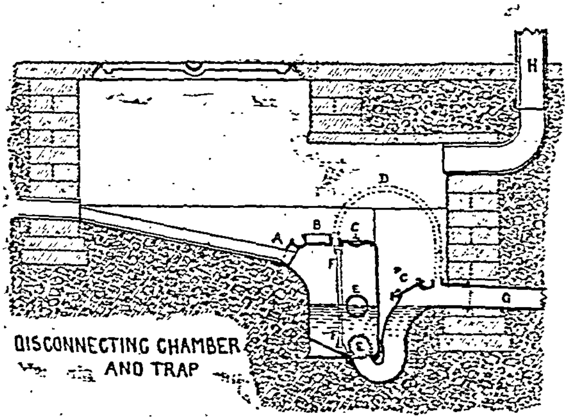
The scheme forming the subject of the present notice was first introduced on the continent by the inventors, Messrs. F. and W. Liernur, some 30 years ago, when it was applied to the city of Amsterdam, yet notwithstanding that we justly pride ourselves on taking a leading position in all sanitary questions, there has been but one installation of this system established in this country up to the present—viz., at Stansted in Essex. In 1903 the local sanitary authorities of Stansted contemplated laying down a system of drainage for their district; the Liernur plan was submitted to them and it seemed to offer the best solution of the difficulties which they had to encounter. The council, however, hesitated to adopt a system which in England had never been put to a practical test. The English Syndicate of the Liernur Company had such confidence in the capabilities of their patent that they offered to make the installation, and in the event of failure to remove it at the end of three years, themselves bearing all expenses. This offer was accepted, and it was not until 1906 that the district council applied for and obtained from the Local Government Board a grant of money to enable it to repay the Liernur Syndicate for their enterprising venture. In arriving at their decision the inspectors of the Local Government Board, Mr. A. A. G. Malet, M.Inst.C.E., and Dr. L. W. Darra Mair, were assisted by the favourable evidence given, amongst others, by Dr. J. C. Thresh, medical officer of health of the county of Essex, and Dr. R. A. Dunn, medical officer of health of the East Herts and West Essex combined district.

The Liernur system is an alternative to that known as the Shone and Ault ejector system for overcoming the difficulties experienced in draining a low level district. Indeed, it is more than that: it is a threatened revolution in existing sanitary procedure. In the Shone system compressed air is introduced automatically into a series of ejection chambers placed in the main drain, by which means the sewage is forced to the higher level at the outfall. In the Liernur system a vacuum is created at the outfall of the main drain and the pressure of the atmosphere at the other extremity forces the contents to that point. Notwithstanding that there are two or three points which may be open to criticism, there are advantages offered by this system of unquestionable value from a hygienic and also from an economic standpoint—some of which are as follows. 1. The ability thoroughly to free the sewers from all deposit and foul air as often as the vacuum is applied. 2. The avoidance of polluting the streets with contaminated air escaping from the road gratings, ventilating pipes, and manholes, as is at present the case. 3. The reduction of the risk of contaminating the ground by leakage from defective sewers; the probability, amounting almost to a certainty, being that any defect in the pneumatic sewer would at once be detected through the vacuum being destroyed by the admission of air. 4. The avoidance of the necessity of laying the sewer at a lower level than the lowest point to be drained for the purpose of acquiring a fall. This has been proved at Trouville where the 10-inch main sewer extends for over two miles at one dead level. 5. The avoidance of a waste of water for flushing purposes. 6. The reduction in the cost of construction and maintenance.

In addition to a saving in the cost of construction, economy in working arises from the fact that at the pumping station the quantity of sewage received is kept to the lowest possible limit, and this is effected without in any way restricting the use of water for flushing closets, sinks, &c., or giving rise to any nuisance. Stoppages in the sewers may be said to be impossible. There can be no doubt that the fact of the sewage being more uniform in quality (owing to the exclusion of rain water) and being broken up by the violence of its passage through the small sewers facilitates its purification by bacterial treatment and also enhances its value when applied to purposes of irrigation.

It would almost seem from the reluctance of most people to accept any new departure from long-established customs that the delay must originate in some natural law "that makes us rather bear the ills we have than fly to others that we know not of." Or can it be that some find it less trouble to accept things as they are than to exert themselves to grasp the details of any fresh proposition in order to judge it on its merits? Or possibly vested interests act as a strong factor against any innovation. To whatever cause, however, we may attribute the delay in the more general adoption of a system which has much to recommend it, both on the grounds of sanitary efficiency and economy, signs are not wanting of an awaking interest on the part of various municipal authorities for whom schemes are being prepared.

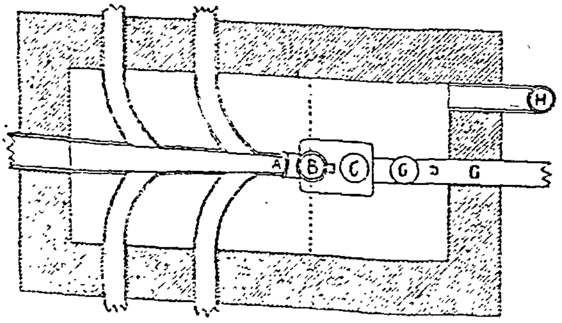
FIG. 1.



Section. Trap in position in disconnecting chamber.

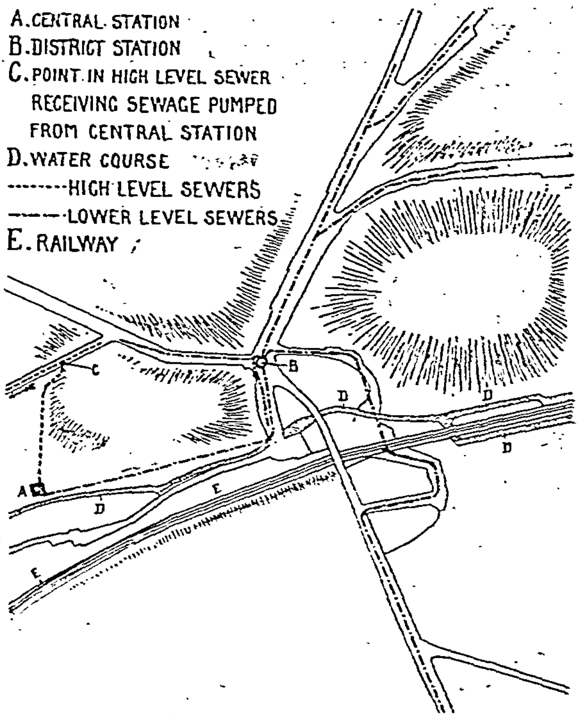
A short reference to the Liernur patent appeared in THE LANCET of August 12th, 1899, p. 420, in an article on Sewage Disposal, but a more detailed account of it and of the works at Stansted, which were recently visited by our Commissioner, may interest many of our readers. Some descriptions of the plant used, with an account of the method of working, will readily enable them with the aid of the illustrations to grasp the very simple details. In the first place, though it is somewhat revolutionary in character, the only alteration necessary in the house drains is the substitution of a special container and trap (Fig. 1) for the syphon trap between the house and the sewer already in common use. It is also imperative that the house drains shall be properly ventilated, especial care being given to the traps of the water closets. The interceptor trap answers a two-fold purpose. It disconnects the house drains from the sewers while it protects the traps and offers a sufficient resistance to permit the vacuum to reach the necessary depression of half an atmosphere before it comes into action. It also forms a screen to hold back such unconsidered trifles as dead cats, discarded apparel, empty preserved-food tins, and other items which a free-handed public would sometimes commit to the seclusion of the sewers. Figs. 1 and 1A show the trap in the position which it would occupy in an ordinary disconnecting chamber. On the continent it is used independently, the chamber being dispensed with. Unlike so many things in which our neighbours across the Channel excel, domestic sanitary procedure forms somewhat an exception. For instance, it is not considered wrong to place this disconnecting chamber inside the houses, accompanied by the drains and soil-pipe. It is true that in the heart of the City of London at times the same thing has to be done but only under exceptional conditions. Placed externally in connexion with the vacuum system it is unobjectionable, though not adapted to gravitation drainage. The trap is like an oblong gully trap with a deep syphon to resist the pull of the vacuum. It is 15 inches long, 10 inches wide, and 24 inches deep. Its normal contents are seven or eight gallons. A is the main inlet from the drain. This on the continent is connected directly to the drain without any open channel. For use in a disconnecting chamber this socket should have a less acute angle with an internal lip at A to throw the liquid into the centre of the trap. B is a socket intended for the direct connexion of the soil and ventilating pipe and is unnecessary with a chamber. C, inspection eyes. D is a small air inlet or anti-syphonage pipe to relieve the trap, as in large installations a very slight depression is constantly maintained in the sewer to keep them ventilated during the intervals of the full application of the vacuum. The retention of this pipe is not, however, insisted upon. E is a hollow vulcanite ball which floats on the water and forms a seal for the protection of the house-traps against the vacuum after the extraction of the contents of the disconnecting trap. Immediately the vacuum ceases an amount of water sufficient to form a seal, previously held up in the long outlet arm, falls back into the trap and the ball again floats. F, metal rods forming the screen. G, outlet to sewer. H, fresh air inlet.

FIG. 1A.



Plan. Chamber and trap from above.

FIG. 2.


A. CENTRAL STATION
B. DISTRICT STATION
C. POINT IN HIGH LEVEL SEWER RECEIVING SEWAGE PUMPED FROM CENTRAL STATION
D. WATER COURSE
--------HIGH LEVEL SEWERS
———LOWER LEVEL SEWERS
E. RAILWAY
A
B
C
D
D
D
D
E
E

Plan of system at Stansted.

The village of Stansted, where the system can be seen in operation, contains some 2000 inhabitants, with an average daily consumption of 15 gallons of water per head. The village is a straggling one, placed partly on a hill of moderate elevation and partly in a hollow in which any efficient plan of sewerage by gravitation would be extremely difficult and costly. (See Fig. 2.) Two systems have therefore been installed, one on the high level on the gravitation principle and in the low-lying district the Liernur vacuum system. This last is connected with 150 houses, having a population of about 1000, two large schools, a factory employing 250 workers, and also with a brewery discharging about 25,000 gallons of waste water weekly. The sewage collected at the station of the lower works (B, Fig. 2) is pumped up into the high level sewer at C, from which it gravitates to the outfall. Here, after passing through a form of septic tank, it is sprinkled on to a coke filter, the effluent being passed on to the land. There is a separate system of surface drainage for carrying all storm water into the brook D.

Main drains.—In this district the houses not having basements no very deep digging was necessary on this account, but owing to some local obstructions the 5-inch cast-iron main sewer had to be kept 6 feet below the road surface and is laid almost on a dead level from end to end. In many cases it is sufficient to keep the drains 2 or 3 feet underground in order to escape frost. The branch sewers are of 4-inch iron pipe. Indeed, cast-iron pipes with caulked lead joints, each length being tested as laid, are used throughout. Experiments show that air in a pipe placed under a vacuum converges to the centre like the spokes of a wheel from the rim to the hub, consequently any dry matter adhering to the top and sides is at once forced off by the pressure of the air contained within it.

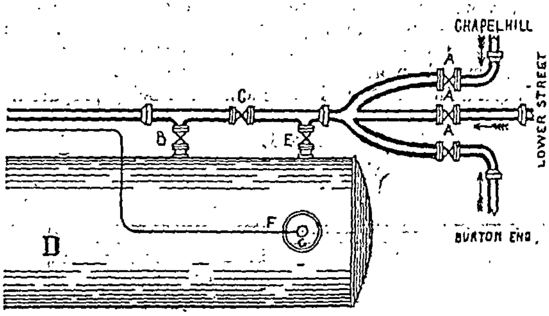
District cylinder.—There are three branch sewers converging to a point where the principal streets meet (see B on plan, Fig. 2). Here is placed a district cylinder (Fig. 3) to which they are connected through the 5-inch main sewer which also again acts as a by-pass leading to the sewage tank at the works. A valve (A) controls each of the branch sewers, three other valves (B, C, and E) being fitted to the 5-inch main to cut off the cylinder from the sewage tank while emptying the branch sewers into the cylinder. An air valve (G) placed on the top is opened whenever the vacuum is applied to empty the cylinder. This district cylinder is placed in a small chamber or station beneath the roadway, access to it being gained through a manhole. In the case of large towns such stations can be multiplied indefinitely. One district station suffices for every 2000 of the population. There are nine such stations at Trouville, where the vacuum system has been satisfactorily working for the past ten years, and here in the height of the season there is a population of from 30,000 to 40,000. Each district cylinder is connected by the main sewer to the central station. A vacuum pipe also follows the same course, being joined to the district cylinder under control of a valve which is kept closed excepting when the sewers are being cleared of their contents. In large installations a vacuum of half an atmosphere is constantly maintained in this pipe, but in a small village like Stansted this is unnecessary, the required depression being quickly obtained after starting the pumps; also the separate vacuum pipe is dispensed with, the main sewer answering the purpose, as shown in Fig. 3.

The central station.—This is fitted with a cylinder of about 2800 gallons capacity connected directly with the main sewer, which last, as already mentioned, also acts as a by-pass for the sewage to the storage tank. Two valves control the connexion of this sewer with the tank and the cylinder. This last is also fitted with a gauge and an inlet safety valve to open should the vacuum produced exceed half an atmosphere. Another gauge also indicates the quantity of sewage present. An air valve is placed on the top of the cylinders, which is opened to admit the air when emptying the same. There are two vacuum pumps of 4-h.p. each, worked by an 8-h.p. gas engine.

Storage tank.—Adjoining the engine-room is the sewage storage tank capable of holding 30,000 gallons, the estimated amount collected per diem being 10,000 gallons. Into this a considerable amount of the sewage finds its way directly by gravitation along the almost level main sewer, acting as a by-pass to the district cylinder. The whole of the sewage is finally collected in this tank from the cylinders and sewers by application of the vacuum. An ordinary force pump raises the contents of the storage tank through an iron rising main to the point C (Fig. 2), where it discharges into the high level system as already mentioned. Had it been possible to locate the central station at the outfall works of the high level system this storage tank and lift pump would have been unnecessary and a less powerful gas engine would have sufficed. The fire-box of a small inclosed furnace is connected to the sewage tank by a ventilating pipe from the same, and any gases generated in the tank with the air drawn from the sewers can be made to pass through the furnace.

The application of the vacuum and the process of emptying the sewerage system is extremely simple, occupying about ten minutes. At Stansted it is accomplished as follows. The operator at the district station (see Fig. 3) first closes the valve A on each of the three branch sewers and valves B and C on the main sewer, thus cutting the connexions between the cylinder D and the central station. The main sewer is then placed under vacuum by the engineer at the central station, after first closing the valve of the by-pass to the sewage tank. The man at the district station then opens valve F on the 2-inch branch vacuum-pipe leading off the main sewer, thus placing the cylinder under depression. All being in readiness the valve A is opened on the first branch sewer. At once the atmospheric air rushes down the soil or ventilating pipes of the houses connected to this particular branch, when its contents and the accumulations in the disconnecting traps (Fig. 1) are forced into the cylinder through E at the rate of 12 or more feet per second by the pressure of the extra half atmosphere behind. In this case the pipes being only 4 inches (roughly 12½ inches sectional area) the compelling force in the pipes would equal about 94 pounds which would increase with the momentum of the moving mass, while the resistance in front, owing to the expansion of the air of the drains in the vacuum toward which it rushed, would diminish. As a matter of fact, the superficial area exposed on the surface of the trap (Fig. 1) being much larger than that of the 4-inch pipe, a greater atmospheric force would at first be exerted and help to overcome the inertia of the mass of soil, &c., present in it. The first sewer being cleared, the valve A is closed and the operation is repeated in the case of the other branch sewers. The contents of all three being now in the district cylinder and the sewers themselves cut off from it valve B is next opened establishing the connexion between the district and central cylinders, while valve F on the branch vacuum-pipe is closed. By now opening the air valve G in the district cylinder the whole of its contents are at once shot through the main sewer into the one at the central station to be afterwards discharged into the sewage tank and from there pumped into the high level sewer as already stated. The several valves are now opened or closed as necessary to restore normal conditions. The noise made by the air rushing through the valve into the cylinder helps the observer in a measure to realise the force exerted which is such that a newspaper held at the valve opening is instantly sucked into the cylinder and torn from the hand. The operation is slightly more complicated than in the case where there is a separate vacuum pipe and when a vacuum is always maintained in the main sewer and the sewage tank is omitted.

FIG. 3.



District cylinder.

Messrs. Liernur's system is one that makes a strong appeal on hygienic grounds, and for low-lying districts, such as river valleys and shore levels, should prove of great value. Of course, in time of flood it would be as helpless as any other until the water subsided to the ground surface. After this, unlike ordinary deep-laid brick and stoneware gravitation sewers which often remain waterlogged for days until the flood has fallen below their own level, the water not being able to gain an entrance to the air-tight pipes normal conditions would quickly be restored. The patentees avoid so far as possible the admission of storm waters to their sewers on the grounds that it is foolish to foul comparatively clean water by mixing it with sewage, afterwards having the expense of purifying it. Also that the water is not wanted for flushing their sewers. If included, an increased cost for pumping is incurred and, of course, larger mains must be laid.

SANITATION IN INDIA.

A NOTE ON THE SANITARY ORGANISATION OF THE ARMY IN INDIA.

IN THE LANCET of Feb. 22nd a series of articles was commenced dealing with Sanitary Reform in India. These articles give an account of sanitary administration in that dependency, while the following article gives a lucid description of the sanitary organisation of the army in India and comes from the pen of one of our correspondents in that country.

In recent years many important changes have been effected which bring the sanitary organisation of the troops serving in India, both British and native, into a state of high efficiency. The sanitary administration of the army as it stands to-day will not only compare most favourably with the various municipal public health organisations in the towns of the United Kingdom but is perhaps closely approached only by that of Japan and to a lesser extent by the German army. In proof of this assertion attention is invited to a comparison of the health statistics of the British army for the years 1906-07 with those of the previous 25 years, or a comparison of these again with similar statistics of foreign armies. These figures show very striking evidence, as do the health statistics of the army of India for the past ten years, which prove that the drop in the hospital admission ratio for all kinds of preventable diseases is very remarkable.

The factors in army sanitary administration which have brought about these changes have taken nearly ten years in their evolution. The foundation-stone of scientific sanitation in India may be said to have been laid when in 1899 Surgeon-General Sir William Taylor, K.C.B., as principal medical officer to His Majesty's forces in India, first recognised the importance of appointing a specially qualified medical officer of health as sanitary adviser on his staff. In previous years the successive principal medical officers of India controlled the sanitation of the army without expert advice. Sir William Taylor selected as his sanitary adviser on the headquarters staff Lieutenant-Colonel A. M. Davies, R.A.M.C., a diplomate in public health, now professor in military sanitation at the Royal Army Medical College in London. The next progressive step in the advance of sanitary science was taken by Surgeon-General Sir Thomas Gallwey, K.C.M.G., C.B., on his appointment as principal medical officer on Lord Kitchener's staff in India in 1902, when he obtained the sanction of the Government of India to extend the system of medical officers of health to each of the Presidency commands; on this being granted he selected specially qualified officers from the Royal Army Medical Corps, a *sine quâ non* for these appointments being the possession of the D.P.H. These military medical officers of health were placed on the staff of the principal medical officer of each of the commands—Bengal, Madras, Bombay, and Punjab—and their respective areas were divided into districts. Well-equipped bacteriological laboratories were initiated for each district, which were placed in charge of specially selected medical officers either possessing an Army Council qualification in bacteriology or preventive medicine or a diploma in public health. Much of the research work which has led to the reduction of malarial and other fevers in India has been carried out in these laboratories.

On the appointment of Surgeon-General W. L. Gubbins, C.B., M.V.O., as principal medical officer of India in 1906, sanitary science received a still further stimulus, the first progressive step being the increase in numbers of the district laboratories which were doing such good work and the next the increase in the staff of each from one medical officer to two, one from the Royal Army Medical Corps and one from the Indian Medical Service. When Lord Kitchener abolished the Presidency commands and created independent divisional commanders in 1907, Surgeon-General Gubbins, recognising the opportunity for the still further improvement of preventive medicine in India, at once obtained sanction from the Government for the appointment of a medical officer of health to each of the ten divisions of the army, a progressive step which has already proved of great benefit to the army. It will be seen from this brief retrospect that the chain of sanitary administration in the Indian army has been forged link by link.

Passing on to consider the executive *personnel* and the distribution of work under the present sanitary system, we find that the Commander-in-Chief holds the principal medical officer on his staff at army headquarters, Simla, responsible for the health of the army. Under that important officer's direct orders all instructions affecting the general health and sanitation of the army as a whole are issued to general officers commanding divisions. The sanitary executive, however, in so far as it affects such conservancy as is under cantonment magistrates of military stations, belongs to the cantonment magistrates' department which is administered by the quartermaster-general in India, whose department forms a separate division of the army headquarters staff in Simla. The principal medical officer's division is divided into sections, one of which is under the immediate supervision of a medical officer of health (sanitary officer, army headquarters), who examines and reports on all the sanitary work of the entire army, including all plans of new buildings, sites of new cantonments, &c., these being submitted to the principal medical officer for medical approval by the great departments concerned (Quartermaster-General and Military Works). Expert sanitary advice or criticism, as the case may be, is offered by the sanitary officer on these files before they are laid before the principal medical officer. Similarly general questions affecting the clothing, rations, and water-supplies of the army all pass through the hands of the sanitary officer before receiving endorsement and final approval of the Commander-in-Chief. All hygienic measures and all general questions concerning the prevention of disease as distinguished from treatment, such as vaccination and antityphoid inoculation, as well as epidemiological investigation, instruction classes in sanitation, reports and returns connected with sanitation, and also arrangements for sanitary inspections generally, as, for instance, those connected with outbreaks of epidemic disease, special supervision of biological installations (sewage tanks), and disinfectors, are under the control of the sanitary officer, who also carries out the headquarter analysis of spirits, wines, medical comforts, and such-like things.

In conformity with the model of procedure at army headquarters the principal medical officer of each division, who is on the staff of the general officer commanding, is held responsible by the latter for the health and proper sanitary arrangements connected with the troops in his divisional area. Each divisional principal medical officer's division is divided into sections, one of which, the sanitary section, is under the immediate supervision of a medical officer of health (divisional sanitary officer). This officer holds practically the same position as a medical officer of health in the United Kingdom and his duties are similar to those already described as laid down for the sanitary officer army headquarters, except that he comes much more closely into touch with the executive side of sanitary work in his divisional area and is more especially concerned in taking immediate sanitary steps on the occurrence of infectious or contagious disease, each case of which is notified to him. When epidemics occur it is his duty to investigate the cause of the outbreaks and to make such sanitary recommendations and to take such precautions as he may think advisable. Another most important duty of the divisional sanitary officer is that of keeping himself acquainted with the various systems of water-supplies in use not only in the stations of his divisional area but also in the various camping grounds scattered over the country which constitute some of the greatest sources of enteric or cholera infection to troops on manœuvres or route march. He has to analyse and to examine rations such as tea, sugar, flour, rice, &c., and for this purpose a well-equipped laboratory is provided at the headquarter station of each division. The divisional sanitary officers are generally assisted by other medical officers who are either detailed or else volunteer for this purpose. It may be noted that great benefit from an educational point of view is derived from these laboratories, as other medical officers, either those on duty at the head-quarter station or those on leave, take advantage of attending courses in bacteriology and tropical research work, since all investigations in clinical pathology required by the local hospitals are carried out in them and instruction is afforded in these matters to all who like to attend.

The next link in the chain of sanitary organisation, and perhaps the most important of the whole system, is the sanitary administration and executive of a military station or cantonment. Here we are met with the crux of the whole sanitary problem in India. Formerly cantonments were intended for troops only, with accommodation outside for their necessary followers and no others, but as time went on these cantonments became surrounded by bazaars which sprang up to shelter natives who make their living out of the soldier, and houses within cantonments passed into the hands of native landlords who have no idea of sanitary requirements and who cannot be induced to spend money on their property. The natives living in these surrounding bazaars are always in evidence and they contaminate the food and water which are required by the soldier. They only return to their hovels in the bazaar to sleep and may on coming back convey disease directly to barracks. The officer commanding a military cantonment or station is responsible for its sanitation and issues his orders connected therewith through the sanitary adviser on his staff—namely, the senior medical officer—to all concerned. The officers commanding units (regiments, batteries, corps, departments, and station hospitals) are held responsible for the areas occupied by the troops, followers, &c., under their command by the officer commanding the station, and such parts of cantonments which do not come under the above headings are in the sanitary charge of the cantonment magistrate. All these areas are periodically inspected as to their sanitary condition by the senior medical officer of the station. The sanitary executive or conservancy department (outside unit lines) is in charge of the cantonment magistrate and this officer is held responsible by the officer commanding the station that all night soil, excreta (both human and animal), refuse, rubbish, &c., are properly removed and disposed of outside cantonments. He has also the watering of roads in his charge. The sanitary condition of the trenching grounds for night soil, &c., is periodically inspected by the senior medical officer of the station and reported on by him.

Each unit (regiment, battery, &c.) in a station has a medical officer attached who is the sanitary adviser of the officer commanding, and this officer carries out frequent, in some cases daily, inspections of the lines and men under his immediate charge. Sanitary cadres exist in every unit, comprising a proportional number of men in charge of a non-commissioned officer whose sole duty is to go round barracks and to supervise the menial conservancy establishment (sweepers, and so on). The water-supply of stations and camping grounds as far as executive duties are concerned is under the Military Works Department; it is examined chemically under the orders of the senior medical officer at least twice a year (once before and once after the monsoon), and bacteriologically as often as may be thought necessary by the divisional sanitary officer. At all divisional and brigade head-quarters, as before stated, the laboratories carry out the clinical investigation of the station; besides this they carry out such research work as is beyond the power of the hospitals of other stations in their respective areas, and work beyond the scope of a brigade laboratory may be referred to the divisional laboratory. The brigade laboratories are inspected from time to time by the divisional sanitary officer and the divisional laboratories by the sanitary officer at army headquarters. High-power microscopes with oil immersion lenses and suitable reagents are issued to all stations for clinical, diagnostic, and research work. Every endeavour is made to aid all forms of microscopic investigations even in the smallest stations. Keen workers have only to ask for what they want and they are supplied with cultures and apparatus, on loan or otherwise, from divisional head-quarters. Most hospitals carry out their own Widal and blood examinations for enteric and other fevers.

With the memory of the conditions under which the pioneer work of Ronald Ross, Bruce, Leishman and others was performed, the present generation of medical officers of the army serving in India must need look with gratitude to the way in which modern science is encouraged and laboratories are equipped as compared with what existed only ten years ago, when not a single microscope provided by Government was to be found in any military medical institution. Although matters are not yet perfect it may be fairly claimed that since that time the advances made in the Indian sanitary service have marked a new epoch in its history.

EPSOM COLLEGE.

THE annual general meeting of the governors of Epsom College was held on June 26th at the office in Soho-square, London, W. Mr. HENRY MORRIS, the treasurer, occupied the chair, and he was supported by a large number of governors, including Sir R. Douglas Powell, Sir William S. Church, Sir Dyce Duckworth, Sir Constantine Holman, Dr. J. Roberts Thomson, Dr. William Collier, Dr. Frederick Taylor, Dr. F. de Havilland Hall, Mr. J. A. Bloxam, Dr. Frederick Needham, Mr. George Eastes, Mr. J. H. Morgan, Mr. H. W. Kiallmark, Dr. Clement Godson, Dr. H. Hetley, Dr. St. Clair B. Shadwell, Mr. G. H. Makins, Dr. Guthrie Rankin, Mr. John Adams, Mr. Bilton Pollard, Dr. Charles Drage, Mr. W. F. Haslam, and Mr. A. Pearce Gould.

The SECRETARY having read the notice convening the meeting, read the list of successful candidates as under:—

	Votes.
PENSIONERSHIP.	
1. Price, Charles R.	4179
FOUNDATION SCHOLARSHIPS.	
1. Forbes, George F. M.	7593
2. Stearn, Ernest R.	7521
3. Sheperd, Albert V. W.	6438
4. Hoskyns-Abrahall, T....	6405
5. Elphick, Harry N. K....	6269
6. Hains, Ronald C.	5857
7. Colman, Charles W. T.	5528
R. R. CHEYNE ANNUITY.	
1. Dix, Fanny	6224

The Secretary reported that at the council meeting, which would take place immediately after the annual general meeting, Mr. Herbert F. H. Barham would be appointed a Pugh pensioner under By-law 20, a vacancy having arisen.

In moving the adoption of the report of the council to the governors, the CHAIRMAN referred to the great loss which the council had suffered by the death of two members of their body, Dr. John Henry Galton, a vice-president of the College, and Mr. Reginald Harrison. He said that it was difficult to express adequately the loss which the College had sustained by the death of Dr. Galton who rendered valuable services as chairman of the works committee throughout a very trying period whilst the extensive drainage and sanitary operations at the College were being carried out. Mr. Reginald Harrison was so dear a friend of many present that his loss was felt to be of a personal character.

The report stated that the council was glad to be able to present a satisfactory financial statement for the year 1907. Although it was necessary to spend a sum of £1464 15*s*. 7*d*. on special works at the College and on the completion of the drainage operations, the surplus shown on the income and expenditure account for the year amounted to £1968 19*s*. 6*d*. The council wished to draw the attention of the governors to the existing arrangements in connexion with the election of pensioners and foundation scholars as follows: (*a*) Governors who do not wish to be applied to for votes may have an asterisk placed against their names in the printed list of subscribers to show that they are not to be canvassed; (*b*) the public polling day has been abolished for many years, hence applicants and their friends are not required to go to the expense of attending the annual general meeting of the governors at which pensioners and foundation scholars are elected; (*c*) no exchange of votes is permitted at the office and no assistance or advice in this respect is ever given by the officials; (*d*) the relative claims of all candidates for pensionerships and foundation scholarships are carefully considered annually by the selection committee, and the council issue with each voting paper a list of the candidates whose cases, in the opinion of that committee, are the most urgent; and (*e*) although candidates are at liberty to apply for votes to those governors who are willing to be canvassed, the council do not recognise the system of canvassing and no assistance in the drafting of canvassing cards is given by the officials.

The council had given careful consideration to a scheme for the erection of a new building to provide further class rooms, better accommodation for teaching science, and a day boys' common room. Owing to the funds in hand being insufficient for this purpose they at one time feared that the work would have to be postponed, but owing to the kindness of Mrs. Markham Skerritt, who had advanced a sum of £5000 to the College on favourable terms, the new building would be erected forthwith and the laboratories, to be called for ever the "Markham Skerritt Laboratories," would be of such a character and so well equipped as to afford efficient means for practical instruction in physics and biology to all the boys. On Founder's Day last year a memorial east window in the College chapel, which had been erected at a cost of £700 by contributions from old Epsomians and other friends of the school in commemoration of the jubilee of the opening of the College, was dedicated by the Dean of Winchester. Since the last annual general meeting the basement and ground floor corridors in the main College building, with the rooms opening on to them, and the first and second floor corridors had been heated by the "Reck" circulator system and a hot-water supply had been provided throughout the College, at a cost of £679 for the two systems. A block of buildings containing a new box-room, a new lavatory, and an extension of the latrines had also been provided.

Since the last report P. W. Green had gained an open scholarship at St. Mary's Hospital and R. F. Eminson had gained one at Charing Cross Hospital, whilst B. S. C. Hutchinson had passed into Sandhurst (thirty-fifth place). 12 boys had passed the whole or a part of the Preliminary Scientific Examination for the degree of M.B., B.S. of the University of London; 12 boys had passed the matriculation examination of the same University; 11 boys had gained the higher certificate of the Oxford and Cambridge Schools Examination Board, and 27 had gained the lower certificate. The numbers of boys in the school were as follows: 50 foundation scholars, 7 council exhibitioners, 158 other boarders in the College, 35 boarders in masters' houses, and 22 day boys; total 272.

The motion for the adoption of the report having been seconded by Sir CONSTANTINE HOLMAN, it was carried unanimously.

After the formal business of electing members of the council and the auditors, Sir WILLIAM CHURCH, the chairman of the council, proposed a vote of thanks to Mr. Henry Morris for the great services which he rendered to the institution as treasurer, and for his able conduct in the chair. This was seconded by the Rev. E. W. NORTHEY and carried by acclamation.

MEDICINE AND THE LAW.

The Lunacy Act: A Prosecution.

AT Brighton Borough Bench, on June 25th, Mr. William Henry Compton was summoned by the Commissioners in Lunacy under the provisions of the Lunacy Act, 1890, for having charge on April 7th of a person who was a lunatic without complying with the Act relating to certification and reception. There were three summonses in all. The patient had been a schoolmaster in Buckinghamshire but became very ill through overwork. He was perfectly rational except on one point which was that he fancied that when teaching he suddenly had had a gift of singing conferred upon him, that he could sing anything at sight, and in consequence, that he was the most important person in the world. By the advice of his medical attendant his son removed him to Brighton, where, after a few days, he took up his residence at the house of the defendant, the terms to be £4 4s. per week. The defendant, according to the evidence in the police-court, treated the case as one of nervous breakdown which might develop into general paralysis. The patient's symptoms were consistent with general paralysis or with nervous breakdown, and he was not, the defendant said, in a state that would have justified him in certifying the patient as of unsound mind. Food was enjoyed, amusements were freely entered into, letters were answered; moreover, he frequently went out alone. On April 16th, however, the patient had a "maniacal outburst" and went to the police. He was taken before the magistrates who ordered his removal to Haywards Heath asylum and he died in the following month. For the defence it was held that during the time when the patient was with the defendant there were no signs particularly indicative of general insanity and nothing to justify the patient being placed under restraint. The magistrates, however, mulcted the defendant in a penalty of £5 and costs, including £2 2s. advocate's fee, on the first summons for taking for payment charge of a lunatic in an unlicensed house. He was ordered to pay the costs on the second summons for receiving for payment a lunatic to board and lodge, and the third summons for detaining two lunatics at his residence, which was not an institution for lunatics or a workhouse, was withdrawn by the Treasury representative. On behalf of the Treasury during the hearing of the case no reflection was cast upon the treatment of the patient or the defendant's professional standing. These cases should prove instructive to medical men who are recommended to lean towards caution when the reception of a patient of doubtful mental condition is proposed to them.

Action for Negligence against a Barber.

A recent appeal against a judgment for £10 10s. and costs recovered in the Kingston county court illustrated the dangers attending the process of being shaved in a public hairdressing establishment or barber's shop and also to some extent made clear the liability of the barber. The plaintiff, a billiard-room manager, according to his own evidence, was shaved in the defendant's shop and there had inflicted upon his throat a cut about an eighth of an inch in length. The barber afterwards wiped his face with a towel and applied some toilet powder with a "puff." Half an hour later the plaintiff noticed irritation from the cut and when he consulted a medical man was informed that he had contracted ringworm. He afterwards suffered sufficiently to incapacitate him for a time from following his occupation. The appeal to the Divisional Court was on the ground that there was no evidence of negligence on the part of the defendant with regard to keeping clean the razors used, and his counsel contended that as the disease might have been contracted in some other way than through the razor with which the cut was made, therefore direct evidence attributing it to the razor was necessary. The court, however, pointed out that there was evidence of a cut rapidly followed by irritation, and was of opinion that this was sufficient for the county court judge to base upon it the conclusion that the disease was communicated when the plaintiff was shaved. Another point raised was that evidence had been wrongly admitted, given by two other customers of the appellant to the effect that they had both at dates previous to that in question contracted the same disease in his shop. Mr. Justice Channell in his judgment held that without the evidence thus objected to there was enough upon which the county court judge might have founded his decision, and also that the disputed evidence was rightly admitted as it tended to prove that the defendant's razors were not kept properly cleansed. It is to be hoped that the report of this case will have been brought to the attention of all those in whose establishments shaving is carried on and particularly where the same brush, the same razor, and the same towel are used upon a large number of customers. In the argument before the Divisional Court a certain amount of discussion took place with regard to the possibility of rendering razors aseptic, and references were made to the precautions taken by surgeons before performing operations and by dentists. That shaving should be carried on everywhere under completely aseptic conditions is a counsel of perfection possible but not likely to be followed. On the other hand, reasonable precautions can, and should, be taken by all hairdressers, and especially by those who shave, which will insure comparative safety for their customers, and such precautions are not fulfilled merely by dipping a razor in warm water before using it upon the customer's face, a proceeding referred to in the argument before the Divisional Court as if it was taken with the object of sterilising the razor and was capable of attaining that end. The danger in barbers' shops does not, however, lie only in the absence of such precautions as science might recommend to those desirous of carrying on their business with absolute safety; it arises from the use of the same water, soap, shaving brushes, towels, powder puffs, and razors for all the chance customers who may drop in without attention to the rules of what may be termed domestic as distinct from scientific cleanliness. There are many establishments in London where customers by no means of the humbler class are satisfied with conditions which in their own homes would fill them with disgust, and complete asepticism is seriously aimed at in very few instances. The skill of the barber is, perhaps, better to be relied on than the cleanliness of his apparatus. On the other hand, the man whose instruments are dirtiest is to some extent the most likely to shave carelessly and to cut his customer.

A Quack's Performances.

Bertram Mortimer, whom some daily newspapers have described as a "medical specialist" and who has practised quackery of a very gross character with unusual audacity, has now in addition to his sentence for stealing luggage in London, and to the term of four years' penal servitude to which he was condemned at Exeter, been ordered to undergo six months' imprisonment for fraud at Swansea. His real name has been mentioned as W. J. Powell, and his *alias* Mortimer has also been spelt Mortimore. Other sentences upon him passed during earlier stages of his career were for procuration and bigamy. In the circumstances, it is to be hoped that when he is released from the various terms of imprisonment now imposed upon him, some of which he will, perhaps, endure concurrently, the police will keep a sharp look-out in order to prevent the renewal of his crimes. Is it also too much to hope that this gentleman's advertisements will be omitted from certain daily newspapers?

Looking Back.

FROM

THE LANCET, *SATURDAY*, July 10th, 1830.

INSANE POOR.

It appears by returns lately made to Parliament, which have just been printed by order of the House of Commons, that the number of pauper lunatics and idiots in the several counties of England and Wales amounts to very nearly ten thousand, 5145 of these being females. By adding to this number, the amount of lunatics ascertained to be confined in public or private asylums, and those in the army and navy, a total of 13,665 is produced,—a mass which, according to the calculations of Sir Andrew Haliday, is three times greater than it was twenty years since. The judicious and humane disposal of such a large and increasing body of paupers, demands and must obtain, through the interference of Parliament, or the benevolence of the wealthy, a more considerate attention than mere parochial care will bestow on them, and this in some counties it has received. In several of them, public lunatic asylums have been established, and have proved highly economical and advantageous, particularly in consequence of the facilities they have afforded for the *early* treatment of the malady. The following statements, extracted from the reports of the Armagh and Wakefield Asylums, furnished a marked confirmation of the benefits resulting from attention to cases of lunacy, while the attack is recent. In the former, within the last year, of 32 old cases admitted, only one recovered. In the Wakefield Asylum, of 44 cases admitted in which the first attack had taken place within the three months, 28 were cured within six months; and, of 23 cases of twelve months standing, nine were restored within two years from admission. We perceive by the pamphlet of Dr. Palmer, a magistrate of Devon and Somerset, that the establishment of a pauper lunatic asylum in the former county also, is under serious consideration, and will probably be carried into effect.

Sale of Spirits of Wine without a License.—The following letter is extracted from the last number of the *Gazette of Health*. It cannot be too widely circulated:—

"Treasury Chambers, May 26, 1830.

"Sir,—Having laid before the Lords Commissioners of his Majesty's Treasury your memorial, praying that you may be permitted to sell spirits of wine, by retail, without license, I am commanded by their Lordships to acquaint you, that your request cannot be complied with. I am, Sir,

Your obedient servant,

"*Geo. R. Dawson.*[*]

"Dr. R. Reece, 8, Bolton Row."

---

[*] Rt. Hon. Geo. Robert Dawson, P.C., of Castle-Dawson, Co. Derry, Ireland, Secretary of the Treasury and later, of the Admiralty.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8722 births and 3662 deaths were registered during the week ending July 4th. The annual rate of mortality in these towns, which had declined in the nine preceding weeks from 15·7 to 11·8 per 1000, was again equal to 11·8 in the week under notice. During the 13 weeks of the past quarter the annual death-rate in these towns averaged only 13·8 per 1000, and in London during the same period it did not exceed 13·3. The lowest annual death-rates in the 76 towns during the week under notice were recorded in Hornsey, Willesden, Walthamstow, and Wallasey, in each of which urban districts the rates were below 5 per 1000; the rates in the other towns ranged upwards, however, to 18·0 in Manchester, 18·2 in Merthyr Tydfil, 18·3 in Bootle, 18·4 in Burnley, and 21·5 in Huddersfield. The death-rate in London during the week did not exceed 10·9. The 3662 deaths in the 76 towns during the week were fewer by two than the number returned in the previous week, and included 299 which were referred to the principal epidemic diseases, an increase of but three upon the low number in the previous week; of these 299 deaths, 92 resulted from diarrhœa, 76 from measles, 63 from whooping-cough, 40 from diphtheria, 22 from scarlet fever, and six from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases last week were equal to a mean annual rate of but 1·0 per 1000, corresponding with the low rate from the same diseases in each of the three preceding weeks; the rate from these diseases in London was again so low as 0·8. No death from any of these epidemic diseases was registered last week in Derby, Norwich, Birkenhead, York, or in 12 other smaller towns; the annual death-rate from these diseases ranged upwards, however, to 2·3 in Rochdale and in Smethwick, 2·7 in Rhondda, 2·8 in Salford, and 3·4 in Merthyr Tydfil. The deaths attributed to diarrhœa in the 76 towns, which had been 63, 64, and 70 in the three preceding weeks, further rose to 92 in the week under notice, and caused annual death-rates equal to 1·1 in Walsall, 1·3 in Coventry, and 2·0 in Merthyr Tydfil. The 76 fatal cases of measles showed, however, a further decline from the numbers returned in the three preceding weeks; the highest annual rates from this disease were 1·2 in Leyton, 1·3 in Salford, 1·8 in Rochdale, and 2·0 in Stockton-on-Tees. The 63 deaths from whooping-cough also showed a further decline of 10 from the decreasing numbers in recent weeks; they caused, however, a rate of 1·4 in Merthyr Tydfil. Of the 40 fatal cases of diphtheria, an increase of five upon the number returned in each of the two previous weeks, ten occurred in London and its suburban districts, and three both in Liverpool and in Birmingham. The 22 deaths from scarlet fever included 11 in London and its suburbs, and three in Liverpool. Only six deaths during the week were referred to "fever" in the 76 towns. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had declined in the nine preceding weeks from 2938 to 2553, had further fallen to 2529 during the week ending July 4th; 322 new cases of this disease were admitted to these hospitals during the week under notice, against 289, 310, and 365 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had steadily declined in the ten preceding weeks from 301 to 107, rose again to 120 in the week under notice, but were seven below the corrected number in the corresponding week of the five years, 1903-07. Six deaths in London were directly referred to influenza during the week. The causes of 29, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 54 other smaller towns; six uncertified causes of death were, however, registered during the week in Liverpool and three in London and in Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 14·7 and 14·5 per 1000 in the two preceding weeks, further declined to 12·5 in the week ending July 4th, a lower rate than had prevailed in these towns in any previous week of this year. During the 13 weeks of the past quarter the annual death-rate in these eight towns averaged 16·4 per 1000, and exceeded by no less than 2·6 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates during the week under notice ranged from 10·5 and 10·7 in Aberdeen and Edinburgh to 15·3 in Greenock and 15·6 in Paisley. The 540 deaths in the eight towns showed a decline of 70 from the number returned in the previous week, and included 41 which were referred to the principal epidemic diseases, against 51 and 40 in the two preceding weeks; of these 41 deaths, 13 resulted from whooping-cough, 11 from diarrhœa, seven from "fever," four from scarlet fever, and three from both measles and diphtheria, but not one from small-pox. These 41 deaths were equal to an annual rate of 1·2 per 1000, the mean rate from the same diseases in the 76 English towns during the same week being 1·0. The 13 fatal cases of whooping-cough in the eight towns exceeded by one the number in the previous week, and included six in Glasgow, three in Edinburgh, and two in Aberdeen. The 11 deaths attributed to diarrhœa were fewer by five than the number in the preceding week; six were returned in Glasgow and two in Aberdeen. The seven deaths referred to "fever" exceeded the numbers returned in recent weeks, and included six certified as cerebro-spinal fever; five occurred in Glasgow, and one each in Edinburgh and Leith. The four fatal cases of scarlet fever also showed an increase, including two in Dundee. Diphtheria and measles each caused two deaths in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 73 and 67 in the two preceding weeks, were 68 in the week *under notice*, and were fewer by 12 than the number returned in these towns in the corresponding week of last year. The causes of 15, or 3·4 per cent., of the deaths registered in the eight towns during the week were not stated or not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 16·5 and 16·0 per 1000 in the two preceding weeks, rose again to 17·7 in the week ending July 4th. During the 13 weeks of the past quarter the death-rate in Dublin averaged 20·4 per 1000; the mean rate during the same period did not exceed 13·8 in London and 15·5 in Edinburgh. The 134 deaths of Dublin residents registered during the week under notice showed an increase of 13 upon the number returned in the preceding week, and included 11 which were referred to the principal epidemic diseases, against 14 and 11 in the two preceding weeks. These 11 deaths were equal to an annual rate of 1·5 per 1000, the rate during the week from the same diseases being only 0·8 in London and 0·9 in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin, seven resulted from measles, two from whooping-cough, and two from scarlet fever, but not one from diphtheria, "fever," diarrhœa, or small-pox. The fatal cases of measles, which had been five and four in the two preceding weeks, rose to seven in the week under notice. The 134 deaths from all causes in the city during the week included 16 of infants under one year of age and 39 of persons aged upwards of 60 years; the deaths of infants showed a marked decline from the numbers returned in recent weeks. Four inquest cases and eight deaths from violence were registered, and 57, or 42·5 per cent., of the deaths during the week occurred in public institutions. The causes of all but one of the 134 deaths registered in Dublin during the week were duly certified; while in Edinburgh the causes of five, or 6·9 per cent., of the 72 deaths were not certified.

THE SERVICES.

The Director-General of the Medical Department of the Royal Navy.

Inspector-General of Hospitals and Fleets James Porter, C.B., Director-General of the Medical Department of the Navy, has been granted the relative rank of Vice-Admiral in His Majesty's Fleet (dated May 11th, 1908).

Royal Navy Medical Service.

Deputy Inspector-General of Hospitals and Fleets Christopher Pearson has been promoted to the rank of Inspector-General of Hospitals and Fleets in His Majesty's Fleet. Fleet Surgeon William Eames has been promoted to the rank of Deputy Inspector-General of Hospitals and Fleets in His Majesty's Fleet. Deputy Inspector-General of Hospitals and Fleets Howard Todd has been promoted to the rank of Inspector-General of Hospitals and Fleets in His Majesty's Fleet. Fleet Surgeon William Henry Norman has been promoted to the rank of Deputy Inspector-General of Hospitals and Fleets in His Majesty's Fleet.

The following appointments are notified:—Fleet-Surgeon: E. H. Meaden to the *President*, additional, for London Recruiting Headquarters, temporary. Surgeons: R. H. McGiffin to Royal Marines, Plymouth; and W. Bastian to the *Bulwark*. Civil Practitioner: J. A. Dickie to be Surgeon and Agent at Sandbanks.

Army Medical Service.

Surgeon-General William L. Gubbins, C.B., M.V.O., to be Deputy Director-General, vice Surgeon-General W. J. Fawcett, C.B., M.B. (dated June 24th, 1908).

Royal Army Medical Corps.

Lieutenant Frederick E. Bissell to be Captain (dated June 3rd, 1908).

Lieutenant-Colonel R. S. F. Henderson to be Secretary to the Principal Medical Officer, His Majesty's Forces in India, vice Lieutenant-Colonel H. B. Mathias, D.S.O.

Army Medical Reserve of Officers.

Surgeon-Captain William P. Peake to be Surgeon-Major (dated June 17th, 1908).

Surgeon-Major John A. Jones to be Surgeon-Lieutenant-Colonel (dated Jan. 17th, 1908).

Imperial Yeomanry.

Leicestershire (Prince Albert's Own): Surgeon-Captain Walter W. Nuttall resigns his commission (dated March 31st, 1908).

Volunteer Corps.

Royal Garrison Artillery (*Volunteers*): 1st Berwickshire: Surgeon-Lieutenant Irvine K. Hermon resigns his commission (dated March 31st, 1908). 1st Gloucestershire (Gloucester and Somerset): The undermentioned officer resigns his commission (dated March 31st, 1908): Surgeon-Captain Alexander Ogilvy.

Rifle: 3rd Volunteer Battalion, The Gloucestershire Regiment: The undermentioned officer resigns his commission (dated March 31st, 1908): Surgeon-Captain Frederick St. J. Bullen. 2nd Volunteer Battalion, The Prince of Wales's Volunteers (South Lancashire Regiment): Supernumerary Surgeon-Major Frederic J. Knowles (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, South Lancashire Volunteer Infantry Brigade) to be Surgeon-Lieutenant-Colonel, remaining supernumerary (dated March 24th, 1908).

The Royal Naval Hospital, Devonport.

The Lords of the Admiralty on June 30th officially inspected the Royal Naval Hospital, Devonport. Their lordships were received by the Commander-in-Chief (Admiral Sir W. Fawkes). Amongst others present were Inspector-General H. T. Cox, Deputy-Inspector-General J. J. Dennis, Deputy-Inspector-General F. J. Lilly, and the hospital staff. The officers' block and the medical and surgical wards were inspected. The victualling yard was afterwards visited.

DEATHS IN THE SERVICES.

Deputy Inspector-General of Hospitals and Fleets James Nicholas Joseph O'Malley, R.N. (retired), on June 29th, at his residence, Southsea, in his seventy-seventh year. He entered the service as a surgeon in 1856, was promoted staff-surgeon in 1865, fleet-surgeon in 1877, and retired with the rank of deputy inspector-general of hospitals and fleets ten years later. In 1879 he was fleet-surgeon of the *Boadicea* during the Zulu war (medal).

A GALLANT ACT.

A gallant attempt at rescue from drowning, says the *Army and Navy Gazette* of July 4th, was made on Sunday at Millbank. A boy was playing on the steps by the side of the Westminster borough council's wharf when he fell into the river. The spot is directly opposite to the Royal Army Medical College and Lieutenant J. S. McCombe, R.A.M.C., observing the accident, immediately jumped into the water and did his best to save the lad. The tide was running very strongly, however, and the officer's gallant attempt was unsuccessful. At the inquest Lieutenant McCombe was thanked by the coroner and jury for his brave conduct. He dived several times but was unable to find the boy, whose body was afterwards recovered.

ST. JOHN AMBULANCE BRIGADE.

On July 4th Admiral the Hon. Sir E. R. Fremantle inspected the members of the No. 1 District (Metropolitan Corps) of the St. John Ambulance Brigade, which this year celebrates its twenty-first anniversary, in Hyde Park. The inspecting officer was received by Inspector-General Belgrave Ninnis, R.N., the commissioner of the brigade; Colonel Lees Hall, deputy commissioner of the district; and Mr. J. Cantlie, chief surgeon. After the inspection there was a march past. Admiral Fremantle warmly complimented the company.

THE PHYSICAL TRAINING OF RECRUITS.

The committee appointed under the chairmanship of Surgeon-General Sir Alfred Keogh to investigate and report upon the physiological effects of (1) the food, (2) the training, and (3) the clothing of the army, has presented an interim report dealing with the second heading, and containing valuable recommendations which will be noticed in detail.

Correspondence.

"Audi alteram partem."

THE OLDEST INSTITUTION FOR TREATING SICK CHILDREN.

To the Editor of THE LANCET.

SIR,—I am sorry that I have been guilty of an inaccuracy in my letter of June 19th. My authority for the latter part of my statement was a letter addressed to the governors of this hospital by the founder, Dr. Charles West, who had formerly been attached to the infirmary in the Waterloo-road. In this letter, written in 1877, Dr. West says: "I sought while connected with the infirmary to obtain its conversion into a hospital; a result which has since been attained, though not till several years after the establishment of the hospital in Ormond-street." Sir Samuel Wilks's statement that during the "fifties" children were occasionally taken in as well as women by the institution in the Waterloo-road is quite compatible with Dr. West's statements, though not with mine that "for many years after 1852 the treatment was dispensary treatment only," and I modify it accordingly.

To prevent confusion I should explain that the Hospital for Sick Children does not claim to be the oldest *institution* for treating sick children in this country, but to be the oldest *hospital* for sick children. It was with this object that I wrote my letter in your issue of June 26th. The letter of the secretary of the Waterloo Hospital in the previous number was so worded that any reader without a knowledge of the facts might have inferred that the institution in the Waterloo-road was the oldest children's hospital. My statement that the Great Ormond Street Hospital is the oldest children's hospital in this country rests on good authority—namely, on that of THE LANCET and of the Waterloo Infirmary itself, besides that of many others both lay and medical men.

On May 18th, 1850, THE LANCET published "a statement which has been laid before the public by the committee of the Royal Infirmary for Children in the Waterloo-road," of which the following is an extract:—

> This charity was established in 1816 as an Hospital or Infirmary for Children ...... the great cost of the structure was paid out of money borrowed for the occasion. ...... Shortly afterwards the chief founder of the Charity died and with his death the charity faded and from the bright promise of a Children's Hospital ...... the institution became *comparatively neglected* and existed merely as a Dispensary ...... it is still a Dispensary and not yet a Hospital.

In THE LANCET of March 22nd, 1851, occur the two following passages:—

> The printed report which was circulated through the room showed *that there existed in London only one Dispensary for the special treatment of the Diseases of Children, and neither in this city, nor throughout the British Empire, was there any Hospital exclusively devoted to their reception.*
>
> In THE LANCET nearly 12 months since we took occasion in making some remarks on the Royal Infirmary for Children to express our surprise and regret that no Hospital for Sick Children was to be found in the Metropolis.

In THE LANCET of April 2nd, 1898, in the obituary of Dr. Charles West, you state:—

> "At the same time that he was working at St. Bartholomew's Hospital he was trying, but in vain, to induce the committee of the Dispensary for Women and Children to open a children's hospital, and when he failed he persuaded in January, 1850, eight other gentlemen, one of them *Dr. Bence Jones, to issue an appeal in favour of establishing* such an institution. ...... On March the 19th, 1851, at a public meeting at which *Lord Shaftesbury*, then Lord Ashley, was chairman, the Children's Hospital was founded. A fortnight afterwards what had once been the house of the Court physician, Dr. Meade, 49, Great Ormond-street, was taken for the hospital.

These extracts quoted above are, I think, quite sufficient to establish the claim of the Great Ormond Street Hospital beyond dispute.—I am, Sir, yours faithfully,

STEWART JOHNSON, Secretary.

Hospital for Sick Children, Great Ormond-street, London, W.C.,
July 6th, 1908.

*** In an interesting little controversy the odd position is reached that both parties are right.—ED. L.

THE HENDON EDUCATION COMMITTEE, ITS MEDICAL OFFICER, AND THE GENERAL PRACTITIONER.

To the Editor of THE LANCET.

SIR,—Will you assist me in calling the attention of the profession to an abuse of the Act for the Medical Inspection of School Children which is fraught with grave danger to members of it whose patients, like my own, consist principally of the children of the poor. The intention of the Act is, I believe, simply to prevent children attending school in an unfit condition. It was far from the intention of its promoters to set up a machinery for the revision of the decisions of the general practitioner as to the fitness for school or otherwise of his patients or to pay medical officers to draw children away from the care of their family doctors. But this is what is being done here; needless to say, not by the medical officers themselves but by the local education officials.

I happen to have four patients of school age all suffering from early phthisis. All of these I have, of course, more in the general interest than in their own perhaps, forbidden to attend school, having signed the form provided for that purpose by the local education committee. But with this these officials will not be content. More than once their parents have told me that the attendance officer has invited them to send the boys, whom I have forbidden to attend the school, to the school on such and such a date "to see our own doctor." Now, simultaneously, notices, of which I inclose a copy (see below), have been sent to the parents of all the boys asking them to bring the boys to the council offices to-day to see the "school medical officer." The reason given for this is that "a medical certificate has not recently been provided." The enforcing of these medical certificates, which the local council have not, as has been done in other districts where I practise, paid for when they required them, has been a considerable hardship to our poor people and naturally they consider that, in an illness of so protracted a nature as consumption, one certificate ought to be considered sufficient for a long period of time. As a fact, no request has been made in these cases for a repetition of the certificates, the parents not having been again supplied with the form for the purpose. Had this request been made and not complied with there would have been more excuse for the action of the education officials. What is really happening is that a deliberate attempt is being made, on the plea of carrying out the recent Act, to withdraw from the general practitioner, or at least from one, like myself, who is not in the good books of the officials, the right of saying when a child who is a patient of his may or may not attend school and to make "the school doctor" the sole judge in such cases. If this succeeds the natural result must be that parents will see that they will be saved trouble and also the expense of certificates by employing "the school doctor" to attend their children in place of their family medical man; and even if this were not so but the decision of the family doctor were liable to be revised by "the school doctor" the prestige of the former must suffer in consequence.

In my case the two "school doctors" are personal friends and, of course, in no way to blame for what is being done. But it happens that the local education officials have a grudge against me—and I suspect many of the education committee also—for having had the temerity to publicly attack their administration of the Education Acts in the interests of the children in the Hendon schools, and I have little doubt that this is an attempt of some or other of these persons to injure my practice. But whether so intended or not it is clear that if the Act is to be thus used to oust the general practitioner from his care of the children of his poor patients it will ruin the practices of those whose income largely depends upon such cases. What remedy have I for this? It can easily be carried on without the knowledge of either "the school doctors" or myself. And a time might come when "the school doctor" was no longer a personal friend but possibly a none too scrupulous rival. If other general practitioners are finding themselves in the same predicament, I shall be glad to hear from them with a view of taking combined action if it should prove necessary. And I should value, Sir, your opinion on the proper course to take. I am, Sir, yours faithfully,

HENRY BAZETT, M.A., M.R.C.S. Eng., L.R.C.P. Lond.

Rossall, Hendon, June 26th, 1908.

*** We append the copy of the letter addressed by the secretary of the Hendon education committee to the parent of one of the children who have been absent upon Mr. Bazett's advice, and we fail to see what right he has to summon the parent and child to a consultation with another medical man.

> DEAR SIR,—The Attendance Officer reports that your son Sidney has been away from School for some time owing to illness and that a medical certificate has not recently been provided. This is to inform you that the School Medical Officer will attend the Council Offices at 3.30 P.M. on Friday, when the attendance of your son and yourself is requested.
>
> Yours faithfully,
>
> JAMES ANDERSON,
> Secretary to the Committee.

We trust that Mr. Bazett's suggestion that action is being taken by the Hendon education committee upon private rather than public grounds is an error; but whatever the reason may be which has led the committee to seek to get Mr. Bazett's medical opinion over-ridden by the school medical officer the action is a grave error in policy as well as in manners.—ED. L.

OATMEAL DIET IN THE TREATMENT OF DIABETES.

To the Editor of THE LANCET.

SIR,—In reference to your annotation on the oatmeal diet of diabetes in THE LANCET of June 27th it may be interesting to send you a note of a case recently under my care.

A man, aged 67 years, subject to gouty glycosuria intermittently for a number of years, at length gave evidence of pronounced diabetes. At the same time he took with relish to the morning meal of porridge. Then one day quite suddenly he was reported to me by the nurse to have "gone off" the oatmeal and it was dropped out of his dietary. It was also close about this time that his condition became aggravated—thirst, polyuria, wasting. Within a week the presence of diacetic acid in his urine was found by ferric chloride test. Treatment with the alkalies potass. bicarb. and sod. citrate only slightly delayed the ensuing restlessness, delirium, and coma. I should add that the sugar was for the most part of the time as much as eight grains to the ounce and gangrene had started in the foot at the commencement of my attendance.

I am, Sir, yours faithfully,

Hackney, July 8th, 1908. W. J. V. HARLE.

REGOLADO.

To the Editor of THE LANCET.

SIR,—In the *précis* of the Lombardian lake resorts appearing in THE LANCET last year, Sept. 14th, no mention was made of Regolado, the omission being an oversight on the writer's part. Reposing on the mountain side *vis-à-vis* with Menaggio and slightly to the northward, Regolado is 500 feet above Como lake. The hydropathic establishment which mainly constitutes the resort is attained by a rack-and-pinion railway. I gather during the summer Italians are catered for, though not long since an effort was made to attract winter visitors.—I am, Sir, yours faithfully,

Aldeburgh, Suffolk, June 29th, 1908. H. B. SYMONS.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Labelling of Poisons.

ON June 26th a case came before the Salford stipendiary where a firm of what are called "store chemists" was summoned for a breach of Section 13 of the Pharmacy Act by selling a poison, the bottle containing it not being distinctly labelled with the name and address of the firm. It appears that in May last some laudanum and soap liniment was bought for 2*d*. at one of Messrs. J. L. Smith's shops in Cross-lane and the label only showed that Messrs. J. L. Smith had branches in Manchester, Salford, and Pendleton instead of having the name and the address of the place where it was purchased. For the defence it was urged that the firm was well known and that "it would be a great hardship to have separate labels printed for the bottles at each branch shop." There are various ideas of what constitutes a hardship, but in selling poisons over the counter it is desirable, even for the seller, that mischance or evil intent should be guarded against as far as possible, though it should entail some slight inconvenience, miscalled a "hardship." One of these safeguards is that the purchase of the poison is more easily traced when the label gives the address of the shop where it was bought than where it leaves you free to wander from one "branch" to another through Manchester or Salford. Printing is not in these days very costly, and the "branch" must be very weak if it cannot afford labels of its own. The stipendiary said no doubt the firm was well known, but the Act stated that the name and address where the article was purchased must be given. "It was not a bad case, and there would be a fine of 10*s*. and costs." The sale of poisons should be jealously guarded and no foolish remarks about it being a hardship to carry out the law should be brought forward in favour of relaxing the precautions now existing.

Medical Golfers.

Amid the numerous golf clubs of this part of the world the Manchester and District Medical Golfers' Association holds quite a respectable position. It numbers 200 members and on July 4th 107 competitors met at Worsley for the annual tournament. The day was very hot and the ground was hard, so that the conditions were less than paradisiacal, even to the most enthusiastic devotee of this fascinating and fashionable cult. One of the players found the heat, the hard ground, and the behaviour of the nails in his boots such a trying combination that he took off his boots and played from the third hole in his socks. But the relief thus obtained did not bring him success and his bootless return to the clubhouse was greeted with genial merriment. Dr. H. C. Evison of Salford won the cup and displaced Dr. J. Massey of Pendleton, who, however, took the captain's prize and the Walter gold medal, while Dr. Evison took the silver medal for handicaps of ten. At the tournament Dr. Evison won with a score of 71, and Dr. Massey followed with one of 76. The members are gathered from many parts of Lancashire and Cheshire, some from considerable distances. Even those who have not succumbed to the fascination of the game can understand and appreciate the pleasures and benefits to mind and body which such gatherings afford to men engaged in the daily work of their profession, which, however much it may interest, is often wearying and sometimes depressing.

Lead in a Lancashire Water.

A statement was made at a meeting of the Rochdale town council on July 2nd as to the analysis by the borough analyst of the water supplied to a portion of the district served by the Heywood corporation which showed that it was contaminated with lead. One of the aldermen said that one sample contained 1-5th of a grain and another 0·15 of a grain per gallon, and one of the councillors stated that he had had a son laid aside for eight months from lead poisoning and that a neighbour was suffering in the same way. New houses were being built in that neighbourhood and were being coupled up to the supply of the Heywood corporation. It was claimed that the supply of the Rochdale corporation was "as pure as it could be made." That, however, does not explain the case and merely suggests that the Heywood supply is faulty. Many of the northern towns obtaining their water from moorland districts are in constant peril of lead poisoning and therefore must be constantly guarding against it. It may be that the new lead pipes in the new houses are in part to blame, for the fact that the water may take up lead if it is allowed to stand in them all night is often ignored and the water used without any preliminary emptying of the pipe.

The Sun Fires a Shop.

During the recent hot weather a curious occurrence took place at Nelson. The sun's rays ignited the celluloid articles in a hairdresser's shop and a good deal of damage was done before the fire was got under. Curtains have often been set on fire when bull's-eye lenses have been part of the window decoration, but there do not seem to have been any in this case. It at any rate was a useful reminder of the dangerous inflammability of celluloid.

July 7th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Port Sanitary and Civic Hospitals Administration.

THE port sanitary and hospitals committee of the city council met at the municipal offices on July 3rd and proceeded to inspect the infectious hospitals under the management of the committee. In view of the city council's action at the commencement of the financial year in cutting down by £10,000 the committee's estimates, a special appeal was made by the chairman (Mr. John Utting, M.R.C.S.) that as many members of the city council who could would accompany the committee on its tour of inspection and see the extent of the committee's operations. A large number of members of the council responded to the invitation, including the Lord Mayor (Dr. Richard Caton). The utmost satisfaction was expressed at the thoroughness of the arrangements at the various hospitals. The phthisis ward at Fazakerley attracted special attention. Here 24 beds are available for the treatment of tuberculous patients. Excellent results have already been attained, the salubrious surroundings being much admired. At the conclusion of the day's inspection the company sat down to a repast at Fazakerley Hospital. Mr. Utting, in giving the toast of "The Lord Mayor," said that Dr. Caton was eminently qualified to express an opinion on the administration of the hospitals owing to his life-long association with the medical charities of the city. The Lord Mayor, in reply, said that nearly 40 years ago he was a member of a voluntary committee established to carry on the Netherfield-road Infectious Hospital, supported by voluntary subscriptions. The corporation had not at that time been induced to understand that it was a municipal duty to combat infectious disease and to check its spread. That small committee had a heavy piece of work to provide accommodation for typhus fever, scarlet fever, small-pox, and erysipelas both for the poor and for paying patients, for the hospital in Netherfield-road then was not what it has since become under civic management. The difficulties of carrying on that institution were overwhelmingly great, and, as they could understand, a scarlet fever patient might contract small-pox while in the hospital. He would never forget the joy he felt when the municipality admitted that it was its duty to run the hospital. The city, with a large command of finance, was able to make that hospital structurally satisfactory and to add others. Liverpool to-day was behind no city in Europe in its provision for the treatment of infectious disease. The Fazakerly Hospital was by far the best institution of its kind which he had seen in this country or on the continent, and was as efficient as human wit could make it. One reason why the death-rate of Liverpool was steadily declining was the gradual stamping out of infectious disease, largely through the instrumentality of these admirable hospitals of which the city might well be proud. Mr. Utting, in responding to the toast of his health, said that he had been asked what had become of their old enemy, typhus fever. From the years 1866 to 1875 there were 132 deaths per 100,000 of the population from typhus fever; in the next decade the mortality from that disease fell to 53 per 100,000; ten years later it fell to 6·9 per 100,000; and from 1896 to 1905 the number had been reduced to 3·6; whilst during the last two years it had been reduced to 1·7 per 100,000. That was what had become of their old enemy, typhus fever.

David Lewis Northern Hospital.

The Lord Mayor was present in state at the morning service at St. Luke's Church on July 5th, when an appeal was made in aid of the funds of the David Lewis Northern Hospital. His lordship was accompanied by members of the corporation, the medical staff of the hospital, and members of the committee. There was a large congregation. The service was conducted by the Archdeacon of Liverpool (the vicar of the church) and the sermon was preached by the rector of Sefton. He was authorised to say that the David Lewis Northern Hospital, though prepared to continue its good work, was at the present moment perilously near the end of its resources. A substantial offering was made towards the hospital funds.

University of Liverpool: Faculty of Medicine.

The total number of students in the Faculty of Medicine during the session 1907–08 was 148. The total number of research students attending the different departments was 38. At the examinations for the diploma of tropical medicine held in July, 1907, ten candidates satisfied the examiners; in December, 1907, five passed; and in March, 1908, ten obtained the diploma, making a total of 25 successful candidates. At the examinations for the diploma of public health, four candidates presented themselves in July, 1907, and two passed; in January, 1908, three candidates passed. In July, 1907, the degree of M.D. was conferred on seven graduates, and in March, 1908, on one graduate. Professor Benjamin Moore resigned the office of dean of the faculty in the autumn of 1907, and was succeeded by Mr. Keith W. Monsarrat. The title of Associate Professor of Surgery has been conferred on Mr. William Thelwall Thomas and a lectureship in operative surgery has been created to which Mr. Thomas has also been appointed. Dr. William Carter having resigned the chair of Materia Medica and Therapeutics has been granted the title of Emeritus Professor. On the recommendation of the Medical Faculty Mr. Edmund Owen has been invited to deliver the next William Mitchell Banks memorial lecture. He has accepted the invitation and has chosen Nov. 4th, 1908, as the date.

July 7th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Bideford (Devon) Board of Guardians and the Local Government Board.

AT a meeting of the Bideford board of guardians held last week a letter was received from the Local Government Board in reference to the recent appointment of a non-resident medical officer, the Board stating that there was a well-qualified resident medical man who should have been appointed to the post. The guardians, after some discussion, decided to inform the Local Government Board that although another medical man was staying in the district and had promised to take up his permanent residence in the district, still the guardians did not regard this medical man as a resident within the meaning of the Local Government Board regulations and had consequently not elected him.

District Medical Officers and Agricultural Labourers.

At a meeting of the Tiverton (Devon) board of guardians held on June 29th Mr. Acland Troyte alluded to the idea which prevailed among agricultural labourers that a man with three children had a right to the services of the parish medical officer. He remarked that this was totally erroneous and the quicker it was dispelled the better, and added that several people went to their district medical officer for very trivial things, and he considered that this was the way some people got pauperised. The clerk stated that it was quite irregular for medical men to attend any cases without orders from the relieving officers.

Midwifery Fees and the Barnstaple (Devon) Board of Guardians.

At a meeting of the Barnstaple board of guardians held on July 3rd it was decided to pay the fee of a local medical practitioner who had been called in by a midwife for an urgent case, but the chairman added that when possible a district medical officer must be summoned and the guardians would not be disposed to behave liberally to cases where that was not done.

The Bristol General Hospital.

On June 29th, in the presence of a large gathering, the new wing of the nurses' home in connexion with the Bristol General Hospital was formally opened by Lady Greville Smyth. The new building comprises 32 bedrooms and sitting-rooms, and brings up the accommodation of the home to the requirements of 88 nurses.

Obituary: Benjamin Lamb Powne, M.R.C.S. Eng., L.S.A.

The death occurred suddenly on July 1st of Mr. Benjamin Lamb Powne at his residence, Monmouth House, Chard, Somerset, from angina pectoris. Mr. Powne, who was in his 66th year, had been for many years in practice at Chard where he was much esteemed. He held several appointments, being medical officer to the Post-office, a district medical officer of the Chard union, and also surgeon to various friendly societies and factories. Mr. Powne was extremely popular throughout the district. By his death the poor have lost a kind benefactor and he will be much missed at Chard. Much sympathy is felt with his widow and children.

July 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Lord Rectorship.

Dr. W. Osler, Regius professor of medicine in the University of Oxford, has consented to stand as non-party candidate for the lord rectorship of the University of Edinburgh. The political candidates already adopted are Mr. Churchill, M.P., and Mr. Wyndham, M.P., so that there will be a three-cornered fight. On two previous occasions a non-political candidate has stood for office—Ruskin, who came within 183 votes of victory in 1862, and Carlyle, who in 1871 was elected by a large majority over Lord Beaconsfield. The medical vote is very strong, and should it go completely to Dr. Osler our distinguished *confrère* may head the poll in November.

Glasgow Dental Hospital.

The annual report of the Incorporated Glasgow Dental Hospital contains some interesting statistics and observations regarding the development and tendencies of dental science. The number of patients treated during last year was 9693, an increase of 954 on the previous year. The development of dental science tended in the direction of diminishing extraction operations and in the increase of conservative work. Of the total operations in 1903, 34·5 per cent. were extractions, whereas last year the proportion of extractions was reduced to 28 per cent. Conservative operations upon patients last year showed an increase of 1909 compared with the number for the previous year. At the end of the year there were 45 students on the roll, compared with 35 previously. A laboratory, at a cost of over £100, was fitted up in connexion with the recently established bacteriological department. Notwithstanding the fact that this institution has been established for 23 years and is generally recognised as a charitable institution doing good work, the public subscriptions for the year amounted to £93 16s., which works out at something like 2*d*. per patient treated.

Bequest to the Leanchoil Hospital, Forres.

The late Mr. John Munro of Elgin in his will has directed £1000 to be mortified for Leanchoil Hospital, Forres.

Gifts by Lord Mount-Stephen to the Stephen Cottage Hospital, Dufftown.

At a recent meeting of the directors of the Stephen Cottage Hospital, Dufftown, letters were read from Lord Mount-Stephen intimating that he had decided further to endow the hospital by the purchase of £3000 of debenture bonds, which would greatly increase the revenue of the trust, and that he would also provide £1000 in order that an operating theatre and additional bedroom accommodation might be supplied, so that the hospital would be equipped with all modern requirements. The directors thereupon passed a vote of thanks to Lord Mount-Stephen and the secretary was asked to transmit a copy to his lordship. The meeting thereafter met the architect and went into the plans for the proposed extension.

Deeside District Committee: District Medical Officers.

The Deeside district committee at its last meeting had under consideration several matters of medical interest. The finance subcommittee recommended that the medical officers of the district should be paid fees for the occasions on which they are employed instead of the stated salary annually. The medical officers would get 5s. for every visit. The subcommittee also recommended that antitoxin should be supplied free of charge both for curative and preventive purposes to the poorer classes of the district. Both recommendations were adopted. A letter from the agent of the Convention of Royal Burghs recommending the adoption by the committee of the Notification of Births Act was allowed to lie on the table. Dr. J. P. Watt, medical officer of the county, made a statement with regard to an infectious diseases hospital for the district. The Garroch district had been in communication with a Glasgow firm who offered to keep a moveable hospital in stock at the rate of £14 per annum. When this hospital was required by the committee they would, of course, have to buy it. He suggested that the various distress committees in the county might combine to pay this retaining fee. It was decided to leave the matter over to the meeting in August.

July 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Tuberculosis Prevention (Ireland) Bill.

THE President and Fellows of the Royal College of Physicians of Ireland have issued a memorandum stating their views in connexion with this Bill. They consider, *inter alia*, that it is most desirable that the notification of tuberculosis and all other infectious diseases should be made compulsory throughout Ireland, and that to make the notification of tuberculosis of real value in stopping the spread of the disease the Notification of Infectious Diseases Act, 1889, and the Infectious Diseases Prevention Act, 1890, should be uniformly adopted. They do not consider that the cost of erecting sanatoriums for early cases on any extensive scale would be justified by the results of such treatment but recommend that it should be mandatory on the county councils to provide hospital accommodation for advanced cases, which are a constant danger to the community. The same bodies should be compelled to provide competent bacteriologists as medical superintendents of health, to superintend the work of existing medical officers of health, and to perform diagnostic investigations; their appointments should be "whole time." They further recommend that the Bill should penalise spitting in public, should compel the notification of premises vacated by patients suffering from pulmonary tuberculosis, and should provide for the payment of health visitors and the destruction of cows with tuberculous udders.

The Franco-British Exhibition: the Irish Village.

It is understood that any member of the medical profession visiting the Franco-British Exhibition will be admitted to Ballymaclinton, the Irish village, on simply showing his or her visiting card. All the profits from the village, both from the charges for admission and from the sale of goods, are to be devoted to further the scheme established by Lady Aberdeen for the prevention of consumption in Ireland. In the Irish Village, besides many interesting sights, there is a tuberculosis exhibition, an example of the form of object lesson which has been found so useful in educating the people of Ireland as to the causation, prevention, and treatment of tuberculosis.

Carlow Lunatic Asylum: Question of Appointment of Medical Superintendent.

On June 27th a special meeting of the Joint (Carlow and Kildare) Lunatic Asylum committee was held for the purpose of considering an order from the High Court calling on the committee to proceed to the election of a resident medical superintendent of the asylum possessing the proper qualifications. A letter was read from the Most Reverend Dr. Foley, Bishop of Kildare, in which he strongly recommended a cessation of the attitude of contest which had been adopted, as he considered that it was a reasonable, even a necessary, regulation which required five years' experience of asylum work as a condition precedent to the appointment of a person to the responsible post of resident medical superintendent, and he believed that resistance on this or any other score was sure to be futile. Several members, however, expressed themselves strongly in favour of opposing the conditional order, three of whom intimated their readiness to be held personally liable for any expenses incurred so that the ratepayers should suffer no pecuniary loss, and it was finally resolved (by 11 to 3):—

> At a special meeting of the joint committee of Carlow District Asylum held here on the 26th June to consider a conditional order for mandamus from the High Courts, it was decided to instruct a solicitor to show cause why that order should not be made absolute and to defend the committee in their previous action in reference to the appointment of a resident medical superintendent.

The New Baths at Kingstown.

The new Royal Victoria Baths at Kingstown, which have been erected by the Kingstown urban council at a cost of nearly £11,000, were opened on July 4th, in the presence of a large concourse of visitors, by Mr. A. V. McCormick, chairman of the urban council, who spoke in warm terms of the natural advantages of Kingstown as a beautiful and healthy watering place.

The Royal Hospital for Incurables, Donnybrook.

The annual meeting of the governors and guardians of this hospital was held in the board room on July 2nd. Among those present were: Mr. John Lentaigne (President of the Royal College of Surgeons in Ireland), Sir Arthur V. Macan, Mr. Justice Ross, and a number of the leading representatives of commercial interests. The report which was submitted to the meeting showed that the hospital contains 213 beds which are classified as follows: 32 for cancer, 39 for consumption, and 142 for general diseases. During the past year the average daily number of occupied beds was from 209 to 212, which practically means that the house was always kept full. Eight elections had taken place during the year. 127 applicants had applied for admission, of whom 53 were elected: of these 10 were cases of pulmonary tuberculosis, 12 of cancer, 10 of paralysis and other nervous disorders, six of heart disease, six of rheumatism and allied arthritic affections, and nine of various other diseases. Besides filling the beds at each election—and with a view to meeting casual vacancies which may occur—the governors elect (when suitable cases present themselves) two patients as pensioners, and these receive a regular weekly allowance until a time arrives when they can be conveniently accommodated in the hospital. The average attendance of governors at the eight elections of patients held during the course of the year was 121 and the interest thus evinced in the unhappy sufferers from hopeless disease who are seeking admission is most encouraging to those upon whom the responsibility of the hospital mainly rests. The amount of the ordinary expenditure was £7618, being in excess of that of the previous year by £305. This difference was chiefly due to the increased cost of firing, bedding, and building repairs. On the other side of the account the governors record with satisfaction a gratifying increase in the ordinary income of £221. The subscriptions and donations had also exhibited a welcome increase. Mr. Richard Croker had generously cleared the bank overdraft of £371 in July of last year. The trustees of the late Countess of Pembroke had considerately allocated a sum of £500 to the hospital from the moneys left to them to be expended for charitable purposes in Ireland; the income derived from the invested capital to be applied towards the endowment of a bed in perpetuity. The cost of maintaining a patient within the walls for a whole year was £36 7*s.* 1*d.* In the course of the proceedings the speakers took care to point out that everything was kept abreast of the most advanced science of the day. This was specially conspicuous in relation to the antituberculosis campaign. Mr. Lentaigne, in seconding the motion, which pronounced the hospital worthy of the support of the public, pointed out that one of its special claims was that it was, in a sense, a pioneer institution.

Health of Belfast.

At a meeting of the city council of Belfast held on July 1st it was reported that the average death-rate from all causes between May 17th and June 20th was 16·9, that from zymotic diseases 0·9, and that from chest ailments 5·9 per 1000 of the population. It is satisfactory to note, comparing the present with a similar period during last year, that there is a marked reduction in the number of cases of infectious disease (50 per cent.), and that as compared with the preceding month there is a reduction in the general death-rate of 4·3, 1·3 from chest diseases, and 0·5 from zymotic diseases.

Bees in a Letter-box.

A curious incident occurred a week ago at Limavady, when in their flight a swarm of bees took possession of a wall letter-box in the outskirts of that town in county Derry. The bees remained in this odd resting-place for a considerable time, preventing any letters being posted until an official from the post-office opened the box, when the insects, being fortunately in a quiet humour, were regained by their owner.

Portadown Water-supply.

It is unfortunate that at present the inhabitants of Portadown have a supply of water for eight hours only out of the 24, owing to the fact that the reservoir in the Mourne Mountains for storing water for Portadown and Banbridge is not completed, and the local reservoirs hold when full only a few days' supply, being fed by a stream which runs into the pipe in the mountains, and this stream has been very considerably reduced owing to the present dry hot weather. It is evident that the making of the storage reservoir in the Mourne Mountains has taken longer in its completion than was anticipated.

British University Students in Belfast.

A Congress of Students delegated from various university centres met in Belfast during the last week of June. From a medical point of view the principal feature was the medical committee's report. This committee was appointed to continue the agitation by the Congress for greater uniformity in the standard of examinations at the various universities started by the adoption of the following motion at the British University Students' Congress at Liverpool in July, 1907:—

> That the present lack of uniformity in professional examinations in medicine at the British universities, both with regard to the grouping of subjects and to the standard of knowledge required, is detrimental to the progress of medical education; that it is desirable to establish uniformity both in grouping of subjects at professional examinations in medicine and in the standard of knowledge required for same; and that to meet these requirements a State Examining Board should be appointed to control examinations.

This year's report, with some slight modification, was adopted.

Women's National Health Association.

At a recent meeting of the Ballinrobe branch of this association a motion was adopted calling upon the county council of Mayo to act with the other county councils of Connaught in providing a sanatorium for the province on the lines advocated by the Athlone conference; and another motion was adopted advocating insertion in the Tuberculosis (Ireland) Prevention Bill at present before Parliament of a clause providing for the notification of consumptives landing in Ireland from foreign countries or certain English ports. Copies of the latter resolution were ordered to be sent to the Chief Secretary; to Sir Henry Robinson, Vice-President of the Local Government Board; and to Mr. J. E. Redmond, M.P.

July 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Second Congress of Medical Practitioners.

As I have already written to you, the Second Congress of French Medical Practitioners was held at Lille from June 25th to 28th. The attendance was very satisfactory. After an opening address by Dr. Coppens, the President of the organising committee, and the election of officers, the business began with the reading by Dr. Leredde of the report of the subcommittee upon medical education. It recommends that schools and faculties of medicine should be independent as regards their teaching arrangements and should have free control of their own finances. The State should determine the duration of the curriculum and exercise a supervision over the final examinations, and in this the body of medical practitioners should have a voice through delegates recognised by the State who might, if necessary, be nominated by the professional organisations. M. Sorel declared that the present system of examinations is demoralising to students at the very outset of their studies and that its administration is so bad that it must be done away with. Finally, Dr. Coppens moved that all titles and diplomas should be abolished, and in spite of the intervention of Dr. Hardiviller of Amiens, who tried to defend the *agrégé* system, this motion was adopted by the congress. Another motion which was carried on the same day demanded that hospitals founded for the relief of indigent persons should devote themselves to that class exclusively, except in cases of urgency, when other patients might be treated under conditions. On the next day the topic discussed was the free right of members of benefit societies, victims of industrial accidents, and employees under the departments of public works, to choose their own medical attendants. Several medical men having protested against the system of recruiting (*racolage*) practised by the societies and workmen's organisations which insure against accidents the congress adopted the motion that no body, industrial or otherwise, should be empowered to organise its own medical service for the treatment of workmen's accidents but that the supply of such a service should be left to the medical men themselves and its control vested in the responsible parties.[1] Further, that the original certificate of the accident should be confirmed at the demand of one of the parties interested by a consultation between the practitioner treating the accident and the medical adviser of the employer or of the insurance society concerned. Dr. Pierre Seght of Cannes then read his report upon the compulsory notification of infectious diseases by medical men. He moved that it be obligatory upon every parent, master, or employer of patients suffering from all such complaints to notify the same to the municipal authority by means of a medical certificate written upon a special form by the practitioner in charge of the case. This was adopted, as were certain other motions dealing with the establishment of a tariff of surgical fees and the establishment of a commission composed half of medical men and half of members of departmental boards of works (*conseilleurs généraux*) to act as a court of arbitration in cases of abuse. The Congress finally declared that the holding of public offices by medical men is a constant danger to their professional dignity.

The Treatment of Hypertrichosis.

Dr. Albert Weill made a communication upon this subject to the Society of Medicine of Paris on June 12th. He said that women with hair upon their faces could easily be cured of their disfigurement by radiotherapy if judiciously applied in the manner described by him three years ago, which aims at a depilation without causing any change in the skin. This depilation is temporary, but if it be repeated a certain number of times it becomes permanent. Dr. Weill has treated a considerable number of persons by this method for hair upon the face and the legs, and the æsthetic results in 30 cases which he has been able to follow up have been quite satisfactory.

Buccal Leucoplakia.

M. Landouzy in a paper read before the Academy of Medicine on June 23rd dealt with those white patches which occur in the inner surfaces of the cheeks and the angles of the lips and which are known as smokers' plaques or buccal leucoplakia. He showed that they occur generally in syphilitics and that tobacco-smoking is most often their actual exciting cause. They occur in non-smokers also, but in such cases they are always caused by syphilis, and M. Landouzy, following the opinion which Professor Fournier has stoutly maintained, is so convinced of the fact that these plaques have often given him the cue for the treatment of a case of syphilis which had been missed.

Atoxyl in Sleeping Sickness and Trypanosomiasis.

On June 20th at the Academy of Sciences M. Laveran communicated the results of his researches upon atoxyl, an arsenical preparation of low toxicity, in the treatment of sleeping sickness. The results were encouraging but for the most part incomplete, and as a set-off he has found that the drug may cause dangerous symptoms when it is given in large doses. A research was accordingly indicated to find a chemical derivative which should be as active as, and less toxic than, atoxyl. Ehrlich and Bertheim and Browning have pointed to the acetyl derivative of the drug as combining these properties. M. Salmon has tried it upon certain animals, chiefly monkeys, and obtained good results. The acetyl-atoxyl can be given in doses four times as strong as can the simple drug, and M. Salmon thinks that the new product might well be tried in cases of human trypanosomiasis.

A Murderous Assault upon a Medical Man.

On June 29th, about 3 o'clock in the afternoon, an individual dressed like a respectable working man rang the bell of the detached residence of Dr. Armand Marie who is in charge of the male block of the Villejuif Asylum. He was admitted and asked to see the doctor, who was entertaining Dr. Riche, a practitioner of Bicêtre. Dr. Marie entered his study and bade his visitor be seated. The latter whipped a revolver out of his pocket and placing it against Dr. Marie's chest fired, hitting him at about the level of the right nipple. Dr. Marie fell and his murderous assailant discharged five more shots at him, of which only one struck him, entering the right flank. The report of the shots brought Dr. Riche and some asylum attendants into the room. They arrested the ruffian and took him before the Gentilly magistrate, where he said that his crime had been premeditated. He had been confined in the asylum under Dr. Marie's charge in 1900 and had been discharged six months later. Dr. Marie's condition gives no cause for anxiety and Dr. Riche has succeeded in extracting the two bullets.

Deafness and Hereditary Syphilis.

At a meeting of the Medical Society of Paris on June 12th M. Marcel Nattier described a case which shows how necessary it is to keep in mind the serious manner in which parental syphilis can react upon the children. The case in point was that of a puny child whose father and maternal grandfather had both contracted syphilis before they married. His mother died from general paralysis after giving birth to five children, of whom three died at an early age. When the child was four months old he had severe enteritis which interfered with his development in a marked degree. In his twelfth year his eyes were affected with a manifestation of hereditary syphilis, and in his thirteenth his right ear became completely, and his left ear almost completely, deaf, no treatment being of any avail. The general nutrition, on the other hand, was greatly improved by a methodical course of breathing exercises.

A Home of Rest for the Aged.

In my letter of June 22nd I announced a munificent bequest of 10,000,000 francs to the Public Assistance for the purpose of founding a home of rest for old people which is to be known as the Cousin de Méricourt and Besson Home.

---

[1] For a full discussion of the principles at issue in this dispute our readers are referred to a special article on "The Organisation of the Medical Profession in France," THE LANCET, June 27th, 1908, p. 1875.

on the Chinese authorities. The fight against impure milk-supply in Shanghai is a stubborn one, as the system of fines in force has been found to have little other effect than to increase the price of milk in compensation for losses sustained. At the Shanghai mixed court a Chinese dairyman who had been found guilty of adulterating milk and heavily fined on three previous occasions was again brought before the court charged with a similar offence. The magistrate imposed a fine of 200 dollars, two months' imprisonment, and ten days' cangue—i.e., exposing the delinquent in some public place with his head projecting through a square wooden board on which are written his name and crime. Some years ago (in 1903) a vaccination station was opened at the Shanghai Municipal Laboratory under the direction of Dr. A. Stanley, the health officer. During the first year 520 vaccinations were made, but so impressed have the Chinese become with the efficient protective influence of vaccine lymph that they have come forward in yearly increasing numbers till during last March, in one month alone, no less than 1263 were vaccinated and the most satisfactory feature is that all who submitted themselves had done so quite voluntarily.

June 8th.

Medical News.

UNIVERSITY OF LONDON.—At examinations held in May the following candidates were successful:—

M.B., B.S. EXAMINATION.

Honours.—*†§ William Stephen Fenwick, B.Sc. (bracketed equal with A. Fleming for the University Medal), Charing Cross Hospital; *†‡ Alexander Fleming (bracketed equal with W. S. Fenwick for the University Medal), St. Mary's Hospital; *Arthur Norman Leeming, Guy's Hospital; †§ Edmund Garvin Mack, University College Hospital; †‖ Albert James Walton, B.Sc., London Hospital; § Charles Henry Shorney Webb, Middlesex Hospital; and †§‖ Edward Musgrave Woodman, St. Bartholomew's Hospital.

* Distinguished in Medicine. † Distinguished in Pathology.
‡ Distinguished in Forensic Medicine and Hygiene.
§ Distinguished in Surgery.
‖ Distinguished in Midwifery and Diseases of Women.

Pass.—Wilfrid G. Attenborough, King's College; George Norton Bartlett, Guy's Hospital; Bertram Henry Barton and Harry Blakeway, B.Sc., St. Bartholomew's Hospital; Harry Oliver Blanford, St. Thomas's Hospital; George Archibald Bosson, University College Hospital; Rhoda Hicks Butler and Muriel Constance Bywaters, London (Royal Free Hospital) School of Medicine for Women; Walter Horsfall Chesters, St. Mary's Hospital; Hilda Clark, University of Birmingham; James Aitken Clark, St. Thomas's Hospital; Winifred Julia Cox, London (Royal Free Hospital) School of Medicine for Women; David Morgan Davies, Charing Cross Hospital; Gladys Margaret C. Dunbar, London (Royal Free Hospital) School of Medicine for Women; Guy Stanley Earl, St. George's Hospital; Clara Eglington and Frederick Pearson Fisher, University of Birmingham; William Gilliatt, Middlesex Hospital; Edith Mary Guest, London (Royal Free Hospital) School of Medicine for Women; Charles Edward K. Herapath, University College, Bristol; Frederick George Hitch, London Hospital; Frank G. Hodder-Williams, St. Bartholomew's Hospital; Herbert Stanley Hollis, St. Mary's Hospital; Henry Holroyd, Middlesex Hospital; Eric Crichton Hood, University of Leeds; Hendrik Houwink, London Hospital; Rose Fanny Jordan, London (Royal Free Hospital) School of Medicine for Women; David Judah, University College Hospital; Harold Holmes King, St. Bartholomew's Hospital; Alfred John Lee, University College Hospital; Edward Leslie Martyn Lobb and Oswald Marriott, Guy's Hospital; Edward Kenneth Martin, University College Hospital; John Clarke Mead, St. Bartholomew's Hospital; Florence Muriel Morris, London (Royal Free Hospital) School of Medicine for Women; Ernest Edwin T. Nuthall, St. Thomas's Hospital; Mary O'Brien, London (Royal Free Hospital) School of Medicine for Women; John Parkinson, London Hospital; Evan Williams Parry, St. Thomas's Hospital; James J. Paterson, B.Sc., St. Bartholomew's Hospital; Edward Selby Phipson, University of Birmingham; Robert Bernard Price, St. Bartholomew's Hospital; Rowland Waters Rix, St. Thomas's Hospital; Mona Dew Roberts, London (Royal Free Hospital) School of Medicine for Women; Ernest Littleton Sandiland, London Hospital; Charles Fox Octavius Sankey, St. Thomas's Hospital; Frank Sholl Scott, University College, Bristol; Frederick George Sergeant, University College Hospital; Latimer James Short, University College, Bristol; Thomas Gordon S. Smith, St. Thomas's Hospital; Ethelbert William Squire, St. Mary's Hospital; Hugh Stott, Guy's Hospital; Alfred George Sworn, University College Hospital; Arthur Jessop Symes, St. Bartholomew's Hospital; Arnold Newall Thomas and Robert Evans-Thomas, University College, Bristol; and Margaret Hannah Wild, B.A., London (Royal Free Hospital) School of Medicine for Women.

The following candidates passed in one of the two groups of subjects:—

Group I.—Alicia Pears Aldous, London (Royal Free Hospital) School of Medicine for Women; H. Talbot Sidney Aveline, University College, Bristol; Ralph Brown, Westminster Hospital; Thomas William Higgins Burne, St. Bartholomew's Hospital; Ethel Adelaide Douglas, London (Royal Free Hospital) School of Medicine for Women; Albert Edward Evans, Robert Cecil T. Evans, B.Sc., and Norman Kessen Foster, University College Hospital; Sidney Frank Fouracre, Charing Cross Hospital; Henry Leatham Grabham and William Andrew Morton Jack, St. Thomas's Hospital; William Johnson, Guy's Hospital; Evan John Goronwy Jones, University College Hospital; Elsie Marian Layman, London (Royal Free Hospital) School of Medicine for Women; William Percy Purdom, Guy's Hospital; William Percy Walker, London Hospital; and Sophia Margaret V. Witts, London (Royal Free Hospital) School of Medicine for Women.

Group II.—George Spence Candy and Cecil Colmer, London Hospital; Ernest Neville Cook, University College Hospital; Thomas Evans, Guy's Hospital; Harold Sydney Furness, University College Hospital; Gertrude Gazdar, London (Royal Free Hospital) School of Medicine for Women; Thomas John Hallinan, Charing Cross Hospital; George Blenkhorn Harland, University of Durham; Frederick Whewell Hogarth, Guy's Hospital; Max Herschel E. R. Montesole, St. Thomas's Hospital; Mary Elizabeth Parsons, London (Royal Free Hospital) School of Medicine for Women; William Joseph Petty, St. Thomas's Hospital; Thomas Edwin Pryce, University College Hospital; Rachael Hicks Shelley, London (Royal Free Hospital) School of Medicine for Women; Herbert George Willis and Charles McMoran Wilson, St. Mary's Hospital; and Courtenay Yorke, University of Liverpool.

B.S. EXAMINATION (*for Students who graduated in Medicine in or before May, 1904*).

Pass.—George Hutcheson, London Hospital.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

TRINITY COLLEGE, DUBLIN.—At examinations held recently the following candidates passed in the subjects indicated:—

INTERMEDIATE MEDICAL EXAMINATION.

Part I.—Henry L. W. Woodroffe, Andries A. Louw, James M. Elliott, Robert W. Murphy, Arthur F. B. Shaw, Francis O. Crosslé, William L. English, Thomas L. B. Bookey, Albert E. Malone, Thomas G. Harpur, Thomas W. E. Henry, Edgar N. Bateman, Reginald T. Vaugham, Hugh M'C. Fleming, William O. Halpin, Bernard G. Quinlan, Maurice Moore, Henry P. Harpur, and Robert E. Lee.

Part II.—Andries A. Louw, Charles W. M'Kenny, Charles Pentland, Francis J. A. Keane, William O. Halpin, Ernest W. G. Young, John Gardiner, Hugh R. M. Ferguson, Edward P. Allman-Smith, Gervase Scroope, Richard P. Pollard, and Robert E. Lee.

Purser Medal in Institutes of Medicine.—Henry L. W. Woodroffe.

FINAL MEDICAL EXAMINATION.

Part I.—Thomas A. Hughes, Albert J. Stals, David Duff, Douglas M. Moffatt, Robert E. T. Tatlow, Victor B. Kyle, Eric J. Powell, Cecil P. Smyly, Ralph T. St. J. Brooks, John D. Kernan, Benjamin A. Molyneux, George E. Craig, Adams A. M'Connell, Charles G. S. Baronsfeather, Joseph E. N. Ryan, Henry R. Kenny, and Charles B. Jones.

Part II., Surgery.—Dixie P. Clement, Albert V. J. Richardson, David G. Madill, Johannes C. Pretorius, Ernest C. Lambkin, Samuel F. A. Charles, Charles W. Laird, John A. W. Panton, William E. Hopkins, Robert de C. Wheeler, John A. L. Hahn, Duncan F. Hunter, Richard P. Hadden, James E. M'Causland, Edward J. H. Garstin, William Knapp, and William H. Sutcliffe.

Degree in Dental Science.—Arthur K. Macdonald.

Licence in Dental Science.—James I. Kelly.

PRELIMINARY SCIENTIFIC EXAMINATION.

Physics and Chemistry.—Hubert T. Bates, George H. Culverwell, Eileen M. Hewitt, Charles W. C. Myles, William H. R. M'Carter, Edgar H. Wilkins, Dorothy K. Milne, George Roe, John Colgan, Walter Crane, Jerome H. Counihan, William M. Johnstone, Jane F. Colquhoun, Jacobus M. S. Gericke, John T. Higgins, Thomas J. Magee, Charles T. Judd, Hugh G. Trayer, Charles D. Goodenough, Geoffrey A. Hoffman, William E. Fetherstonhaugh, and Kenneth K. Drury.

Botany and Zoology.—William H. R. M'Carter, James N. Armstrong, William O. W. Ball, Hugh G. Trayer, Cedric C. Mecredy, George Roe, Fred. A. V. Denning, Charles D. Goodenough, John Colgan, Jevan H. Powell, George H. Culverwell, Robert A. Flood, Antonie C. Redelinghuys, Jerome H. Counihan, Henry L. D'O. Duckworth, Walter Crane, Edward S. Johnson, Richard E. Tottenham, Jane F. Colquhoun, John Coulter, Edwin F. O'Connor, William P. Croker, Thomas J. Magee, Kathleen D. Wallace, John A. MacMahon, Kenneth R. Drury, James H. Grove-White, Maurice Horan, Reginald O. Smyth, Arthur P. Draper, James B. Taylor, Oswald V. Burrows, Hawtrey W. Browne, Joseph S. English, James R. Dobson, Thomas V. Oldham, Richard A. Stewart, Robert Hemphill, Geoffrey M. M. Fleming, Edward G. Fishe, Leslie J. Nugent, Eric C. Crichton, Robert H. Lyons, Joseph A. Maxwell, Albert W. D. Magee, and Henry B. F. Dixon.

FOREIGN UNIVERSITY INTELLIGENCE.—*Dorpat* (*Iurieff*): Dr. V. C. Shukoffski has been recognised as *privat-docent* of Children's Diseases.—*Harvard*: Dr. John Warren has been appointed Assistant Professor of Anatomy.—*New York* (*University and Bellevue Hospital Medical College*): Dr. Richard M. Pearce, Professor at Albany Medical College, has been appointed to the chair of Pathology.—*Pisa*: Dr. Andrea Boni has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Rome*: Dr. Edoardo Donetti has been recognised as *privat-docent* of Internal Pathology.—*St. Petersburg* (*Military Medical Academy*): Dr. V. A. Oppel has been promoted to the chair of External Pathology.—*Turin*: Dr. Alberto Aggarrotti has been recognised as *privat-docent* of Experimental Physiology.

UNIVERSITY OF CAMBRIDGE.—The Raymond Horton-Smith prize for 1908 has been awarded to T. R. Elliott, M.A., Trinity College, for his M.D. Thesis on "The Control of the Sphincters in Nervous Lesions." The following deserved honourable mention: J. M. Hamill, M.A., Trinity College; and H. Beckton, M.A., Clare College.

CALEDONIAN MEDICAL SOCIETY.—The twenty-eight annual meeting of the Caledonian Medical Society will be held at the Edinburgh District Asylum, Bangour Village, near Uphall, on Friday, July 24th, under the presidency of Dr. J. Keay of Bangour. The annual dinner of the society has been arranged for the same evening at the Caledonian Station Hotel, Edinburgh.

THE SOCIETY FOR THE PREVENTION AND CURE OF CONSUMPTION IN THE COUNTY OF DURHAM.—The annual meeting of this society was held in the sanatorium at Stanhope on June 27th, and was presided over by Mr. C. E. Thompson in the absence of the president, Lord Barnard. The adoption of the annual report was moved by Dr. W. Robinson of Sunderland and seconded by Councillor Elliott of Gateshead. The report referred to the preventive work of the year and drew attention to the rapid fall in the death-rate from consumption in the county since 1900, from nearly 14 per 10,000 persons living to nearly 11 per 10,000 in 1906, and attributed this remarkable fall to the wider appreciation of the principles advocated by the society during the last ten years. It appealed for £6000 to provide a second sanatorium to be used for women only, which is about to be provided, as the 45 beds at Stanhope are quite insufficient. 154 patients had been admitted during the year, but only one-third of these were in the curable stage of the disease. Local and other authorities sent 72 patients, and workmen subscribing 1*s.* a year 56 patients. The following is taken from Dr. J. Gray's excellent report. A new classification of patients (Dr. Turban's), as recommended by Dr. H. T. Bulstrode of the Local Government Board, had been adopted. 140 patients who had been under treatment four weeks and upwards had been discharged during the year with the following results: Of 51 patients who had the disease slightly and affecting one lobe or two half-lobes of the lungs (*Degree 1*) 23, or 45·1 per cent., left apparently cured and 43 returned to work. The average gain in weight was 21·1 pounds and the average stay was 15·6 weeks. Of 31 patients with consumption slight but more extensive than in Degree 1 affecting at most two lobes, or with severe disease and affecting one lobe only (*Degree 2*), there were no cures, but 22 were very much improved and 17 went back to work. The average gain in weight was 16·5 pounds and the average stay was 16·2 weeks. Of 58 patients with severe or very advanced disease (*Degree 3*) none were cured, 28 were very much improved, and 24 were restored to work, their average stay being 14·4 weeks and gain in weight 13·9 pounds. These figures show early treatment to be absolutely necessary for success and the after-results tell the same tale, as shown by the inquiry on April 30th last into the condition of 792 patients who had been treated in the sanatorium in the previous eight years. The after-results were as follows:—*Degree 1.* Of 267 patients in this class 239 were restored to work and 136 are still at work and have been so for periods varying from some months to seven and three-quarter years. 50 have been lost sight of, and as these were among the best cases on discharge most are probably still at work. It is interesting to note that of 14 discharged more than seven years ago half are still at work and only two are dead. *Degree 2.* Of 208 patients in this class 134 were restored to work, 42 are still at work, and 30 have been lost sight of. *Degree 3.* Of 317 patients in this class 130 were restored to work, only 44 of whom are still at work, and 16 are lost sight of. Whilst the after-results in the first class are excellent, those of the other two classes need cause no disappointment considering the shortness of their stay in the sanatorium (under four months) and the poverty and bad surroundings of many of the patients; and even to them and their friends the educational value of a stay in the sanatorium is great, and a proportion of the patients have been restored to work for months or years. An after-care association and a working outdoor colony would improve these results greatly. The ordinary income was £3155, including £255 in 1*s.* yearly subscriptions from workmen, £1139 from local authorities which subsidise beds (at 30*s.* per week), and £827 from patients who pay weekly sums varying up to £2 2*s.* per week according to their circumstances. The ordinary expenditure was £2112. The average number of patients per day was 41·1, the cost of each patient per week was 18*s.* 6¼*d.*, and the average stay in the sanatorium was 13·8 weeks. The election of officers for the year and votes of thanks concluded the meeting.

LUNACY IN SOMERSET.—At a meeting of the Somerset county council held on June 29th it was reported that there were 1560 patients in the county asylum, compared with 1495 for the corresponding period of 1907.

CHILDREN'S EYESIGHT IN MONMOUTHSHIRE.—The elementary subcommittee of the Monmouthshire education committee at its meeting on June 30th reported that 600 cases of defective eyesight among the school children of the county had been satisfactorily dealt with.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Eugen Albrecht, director of the Institute of Pathological Anatomy, Frankfort, suddenly, at the age of 36 years. He was editor of the *Frankfort Pathological Journal*.—Dr. Auguste Reverdin, professor of surgery in Geneva.—Dr. J. Boy-Teissier of the Marseilles hospitals.—Dr. Stephan, head of the scientific department of the Antarctic expedition of the German navy.

PRESENTATION TO A MEDICAL PRACTITIONER.—On July 2nd Mr. Richard Macartney, L.R.C.P., L.R.C.S. Edin., was the guest of the evening at a public dinner held at Cinderford (Gloucestershire) under the presidency of Mr. M. Colchester Wemyss, chairman of the Gloucestershire county council. After the dinner the chairman, on behalf of the subscribers, presented Mrs. Macartney with a canteen of silver and Mr. Macartney received a cheque for £180. The presentations were made on the occasion of the silver wedding of Mr. and Mrs. Macartney to give expression to the respect felt for them in the district.

THE SOCIALIST MEDICAL LEAGUE.—At the first meeting of this league held on June 25th it was agreed that membership should be limited to registered British medical practitioners and dentists and that medical and dental students and non-British practitioners should be admitted as associates. The annual subscription was fixed at 5*s.* for qualified practitioners and 1*s.* for students. It was arranged to hold a yearly meeting during the annual meeting of the British Medical Association and in the same town. Dr. A. Salter (London) was elected chairman, Dr. Williams (Eastbourne) treasurer, and Mr. M. D. Eder (London) secretary to serve during the first year, together with a committee of 10 members.

THE WESTERN VALLEYS MEDICAL ASSOCIATION.—A meeting of the medical practitioners of the Western Valleys (Mon.) was held at Crumlin on June 18th to consider the advisability of forming an association on similar lines to that already in existence in the Eastern Valleys. There was a large and representative attendance, and it was unanimously decided to form an association to be called "The Western Valleys Medical Association," the principal objects being to promote good feeling and *esprit de corps* amongst the members; to discuss and mutually settle all medical matters in the district; to safeguard the interests of the profession generally; to discuss medico-ethical and kindred subjects affecting the profession, and to read papers and show interesting cases.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The honorary general secretary of this association draws our attention to the fact that in our announcement of the third International Congress on the Care and Treatment of the Insane, to be held in Vienna in October (THE LANCET, May 23rd, p. 1502), we named inadvertently three gentlemen as members of the British committee. They are, in fact, members of the Scottish committee. He adds that his association, at the request of the executive committee of the congress, appointed a committee at its recent meeting in London consisting of the following gentlemen:—Dr. Maurice Craig, Dr. Robert Jones, Dr. Charles A. Mercier, Dr. R. Percy Smith, Dr. T. Outterson Wood, and Dr. C. Hubert Bond, with power to add to their on the Chinese authorities. The fight against impure milk-supply in Shanghai is a stubborn one, as the system of fines in force has been found to have little other effect than to increase the price of milk in compensation for losses sustained. At the Shanghai mixed court a Chinese dairyman who had been found guilty of adulterating milk and heavily fined on three previous occasions was again brought before the court charged with a similar offence. The magistrate imposed a fine of 200 dollars, two months' imprisonment, and ten days' cangue—i.e., exposing the delinquent in some public place with his head projecting through a square wooden board on which are written his name and crime. Some years ago (in 1903) a vaccination station was opened at the Shanghai Municipal Laboratory under the direction of Dr. A. Stanley, the health officer. During the first year 520 vaccinations were made, but so impressed have the Chinese become with the efficient protective influence of vaccine lymph that they have come forward in yearly increasing numbers till during last March, in one month alone, no less than 1263 were vaccinated and the most satisfactory feature is that all who submitted themselves had done so quite voluntarily.

June 8th.

Medical News.

UNIVERSITY OF LONDON.—At examinations held in May the following candidates were successful:—

M.B., B.S. EXAMINATION.

Honours.—*†§ William Stephen Fenwick, B.Sc. (bracketed equal with A. Fleming for the University Medal), Charing Cross Hospital; *†‡ Alexander Fleming (bracketed equal with W. S. Fenwick for the University Medal), St. Mary's Hospital; * Arthur Norman Leeming, Guy's Hospital; †§ Edmund Garvin Mack, University College Hospital; †‖ Albert James Walton, B.Sc., London Hospital; § Charles Henry Shorney Webb, Middlesex Hospital; and †§‖ Edward Musgrave Woodman, St. Bartholomew's Hospital.

* Distinguished in Medicine. † Distinguished in Pathology.
‡ Distinguished in Forensic Medicine and Hygiene.
§ Distinguished in Surgery.
‖ Distinguished in Midwifery and Diseases of Women.

Pass.—Wilfrid G. Attenborough, King's College; George Norton Bartlett, Guy's Hospital; Bertram Henry Barton and Harry Blakeway, B.Sc., St. Bartholomew's Hospital; Harry Oliver Blanford, St. Thomas's Hospital; George Archibald Bosson, University College Hospital; Rhoda Hicks Butler and Muriel Constance Bywaters, London (Royal Free Hospital) School of Medicine for Women; Walter Horsfall Chesters, St. Mary's Hospital; Hilda Clark, University of Birmingham; James Aitken Clark, St. Thomas's Hospital; Winifred Julia Cox, London (Royal Free Hospital) School of Medicine for Women; David Morgan Davies, Charing Cross Hospital; Gladys Margaret C. Dunbar, London (Royal Free Hospital) School of Medicine for Women; Guy Stanley Earl, St. George's Hospital; Clara Eglington and Frederick Pearson Fisher, University of Birmingham; William Gilliatt, Middlesex Hospital; Edith Mary Guest, London (Royal Free Hospital) School of Medicine for Women; Charles Edward K. Herapath, University College, Bristol; Frederick George Hitch, London Hospital; Frank G. Hodder-Williams, St. Bartholomew's Hospital; Herbert Stanley Hollis, St. Mary's Hospital; Henry Holroyd, Middlesex Hospital; Eric Crichton Hood, University of Leeds; Hendrik Houwink, London Hospital; Rose Fanny Jordan, London (Royal Free Hospital) School of Medicine for Women; David Judah, University College Hospital; Harold Holmes King, St. Bartholomew's Hospital; Alfred John Lee, University College Hospital; Edward Leslie Martyn Lobb and Oswald Marriott, Guy's Hospital; Edward Kenneth Martin, University College Hospital; John Clarke Mead, St. Bartholomew's Hospital; Florence Muriel Morris, London (Royal Free Hospital) School of Medicine for Women; Ernest Edwin T. Nuthall, St. Thomas's Hospital; Mary O'Brien, London (Royal Free Hospital) School of Medicine for Women; John Parkinson, London Hospital; Evan Williams Parry, St. Thomas's Hospital; James J. Paterson, B.Sc., St. Bartholomew's Hospital; Edward Selby Phipson, University of Birmingham; Robert Bernard Price, St. Bartholomew's Hospital; Rowland Waters Rix, St. Thomas's Hospital; Mona Dew Roberts, London (Royal Free Hospital) School of Medicine for Women; Ernest Littleton Sandiland, London Hospital; Charles Fox Octavius Sankey, St. Thomas's Hospital; Frank Sholl Scott, University College, Bristol; Frederick George Sergeant, University College Hospital; Latimer James Short, University College, Bristol; Thomas Gordon S. Smith, St. Thomas's Hospital; Ethelbert William Squire, St. Mary's Hospital; Hugh Stott, Guy's Hospital; Alfred George Sworn, University College Hospital; Arthur Jessop Symes, St. Bartholomew's Hospital; Arnold Newall Thomas and Robert Evans Thomas, University College, Bristol; and Margaret Hannah Wild, B.A., London (Royal Free Hospital) School of Medicine for Women.

The following candidates passed in one of the two groups of subjects:—

Group I.—Alicia Pears Aldous, London (Royal Free Hospital) School of Medicine for Women; H. Talbot Sidney Aveline, University College, Bristol; Ralph Brown, Westminster Hospital; Thomas William Higgins Burne, St. Bartholomew's Hospital; Ethel Adelaide Douglas, London (Royal Free Hospital) School of Medicine for Women; Albert Edward Evans, Robert Cecil T. Evans, B.Sc., and Norman Kessen Foster, University College Hospital; Sidney Frank Fouracre, Charing Cross Hospital; Henry Leatham Grabham and William Andrew Morton Jack, St. Thomas's Hospital; William Johnson, Guy's Hospital; Evan John Goronwy Jones, University College Hospital; Elsie Marian Layman, London (Royal Free Hospital) School of Medicine for Women; William Percy Purdom, Guy's Hospital; William Percy Walker, London Hospital; and Sophia Margaret V. Witts, London (Royal Free Hospital) School of Medicine for Women.

Group II.—George Spence Candy and Cecil Colmer, London Hospital; Ernest Neville Cook, University College Hospital; Thomas Evans, Guy's Hospital; Harold Sydney Furness, University College Hospital; Gertrude Gazdar, London (Royal Free Hospital) School of Medicine for Women; Thomas John Hallinan, Charing Cross Hospital; George Blenkhorn Harland, University of Durham; Frederick Whewell Hogarth, Guy's Hospital; Max Herschel E. R. Montesole, St. Thomas's Hospital; Mary Elizabeth Parsons, London (Royal Free Hospital) School of Medicine for Women; William Joseph Petty, St. Thomas's Hospital; Thomas Edwin Pryce, University College Hospital; Rachael Hicks Shelley, London (Royal Free Hospital) School of Medicine for Women; Herbert George Willis and Charles McMoran Wilson, St. Mary's Hospital; and Courtenay Yorke, University of Liverpool.

B.S. EXAMINATION (*for Students who graduated in Medicine in or before May, 1904*).

Pass.—George Hutcheson, London Hospital.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

TRINITY COLLEGE, DUBLIN.—At examinations held recently the following candidates passed in the subjects indicated:—

INTERMEDIATE MEDICAL EXAMINATION.

Part I.—Henry L. W. Woodroffe, Andries A. Louw, James M. Elliott, Robert W. Murphy, Arthur F. B. Shaw, Francis O. Crosslé, William L. English, Thomas L. B. Bookey, Albert E. Malone, Thomas G. Harpur, Thomas W. E. Henry, Edgar N. Bateman, Reginald T. Vaugham, Hugh M'C. Fleming, William O. Halpin, Bernard G. Quinlan, Maurice Moore, Henry P. Harpur, and Robert E. Lee.

Part II.—Andries A. Louw, Charles W. M'Kenny, Charles Pentland, Francis J. A. Keane, William O. Halpin, Ernest W. G. Young, John Gardiner, Hugh R. M. Ferguson, Edward P. Allman-Smith, Gervase Scroope, Richard P. Pollard, and Robert E. Lee.

Purser Medal in Institutes of Medicine.—Henry L. W. Woodroffe.

FINAL MEDICAL EXAMINATION.

Part I.—Thomas A. Hughes, Albert J. Stals, David Duff, Douglas M. Moffatt, Robert E. T. Tatlow, Victor B. Kyle, Eric J. Powell, Cecil P. Smyly, Ralph T. St. J. Brooks, John D. Kernan, Benjamin A. Molyneux, George E. Craig, Adams A. M'Connell, Charles G. S. Baronsfeather, Joseph E. N. Ryan, Henry R. Kenny, and Charles B. Jones.

Part II., Surgery.—Dixie P. Clement, Albert V. J. Richardson, David G. Madill, Johannes C. Pretorius, Ernest C. Lambkin, Samuel F. A. Charles, Charles W. Laird, John A. W. Panton, William E. Hopkins, Robert de C. Wheeler, John A. L. Hahn, Duncan F. Hunter, Richard P. Hadden, James E. M'Causland, Edward J. H. Garstin, William Knapp, and William H. Sutcliffe.

Degree in Dental Science.—Arthur K. Macdonald.

Licence in Dental Science.—James I. Kelly.

PRELIMINARY SCIENTIFIC EXAMINATION.

Physics and Chemistry.—Hubert T. Bates, George H. Culverwell, Eileen M. Hewitt, Charles W. C. Myles, William H. R. M'Carter, Edgar H. Wilkins, Dorothy K. Milne, George Roe, John Colgan, Walter Crane, Jerome H. Counihan, William M. Johnstone, Jane F. Colquhoun, Jacobus M. S. Gericke, John T. Higgins, Thomas J. Magee, Charles T. Judd, Hugh G. Trayer, Charles D. Goodenough, Geoffrey A. Hoffman, William E. Fetherstonhaugh, and Kenneth K. Drury.

Botany and Zoology.—William H. R. M'Carter, James N. Armstrong, William O. W. Ball, Hugh G. Trayer, Cedric C. Mecredy, George Roe, Fred. A. V. Denning, Charles D. Goodenough, John Colgan, Jevan H. Powell, George H. Culverwell, Robert A. Flood, Antonie C. Redelinghuys, Jerome H. Counihan, Henry L. D'O. Duckworth, Walter Crane, Edward S. Johnson, Richard E. Tottenham, Jane F. Colquhoun, John Coulter, Edwin F. O'Connor, William P. Croker, Thomas J. Magee, Kathleen D. Wallace, John A. MacMahon, Kenneth R. Drury, James H. Grove-White, Maurice Horan, Reginald O. Smyth, Arthur P. Draper, James B. Taylor, Oswald v. Burrows, Hawtrey W. Browne, Joseph S. English, James R. Dobson, Thomas V. Oldham, Richard A. Stewart, Robert Hemphill, Geoffrey M. M. Fleming, Edward G. Fishe, Leslie J. Nugent, Eric C. Crichton, Robert H. Lyons, Joseph A. Maxwell, Albert W. D. Magee, and Henry B. F. Dixon.

FOREIGN UNIVERSITY INTELLIGENCE.—*Dorpat (Jurieff)*: Dr. V. C. Shukoffski has been recognised as *privat-docent* of Children's Diseases.—*Harvard*: Dr. John Warren has been appointed Assistant Professor of Anatomy.—*New York (University and Bellevue Hospital Medical College)*: Dr. Richard M. Pearce, Professor at Albany Medical College, has been appointed to the chair of Pathology.—*Pisa*: Dr. Andrea Boni has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Rome*: Dr. Edoardo Donetti has been recognised as *privat-docent* of Internal Pathology.—*St. Petersburg (Military Medical Academy)*: Dr. V. A. Oppel has been promoted to the chair of External Pathology.—*Turin*: Dr. Alberto Aggarrotti has been recognised as *privat-docent* of Experimental Physiology.

University of Cambridge.—The Raymond Horton-Smith prize for 1908 has been awarded to T. R. Elliott, M.A., Trinity College, for his M.D. Thesis on "The Control of the Sphincters in Nervous Lesions." The following deserved honourable mention: J. M. Hamill, M.A., Trinity College; and H. Beckton, M.A., Clare College.

Caledonian Medical Society.—The twenty-eight annual meeting of the Caledonian Medical Society will be held at the Edinburgh District Asylum, Bangour Village, near Uphall, on Friday, July 24th, under the presidency of Dr. J. Keay of Bangour. The annual dinner of the society has been arranged for the same evening at the Caledonian Station Hotel, Edinburgh.

The Society for the Prevention and Cure of Consumption in the County of Durham.—The annual meeting of this society was held in the sanatorium at Stanhope on June 27th, and was presided over by Mr. C. E. Thompson in the absence of the president, Lord Barnard. The adoption of the annual report was moved by Dr. W. Robinson of Sunderland and seconded by Councillor Elliott of Gateshead. The report referred to the preventive work of the year and drew attention to the rapid fall in the death-rate from consumption in the county since 1900, from nearly 14 per 10,000 persons living to nearly 11 per 10,000 in 1906, and attributed this remarkable fall to the wider appreciation of the principles advocated by the society during the last ten years. It appealed for £6000 to provide a second sanatorium to be used for women only, which is about to be provided, as the 45 beds at Stanhope are quite insufficient. 154 patients had been admitted during the year, but only one-third of these were in the curable stage of the disease. Local and other authorities sent 72 patients, and workmen subscribing 1*s.* a year 56 patients. The following is taken from Dr. J. Gray's excellent report. A new classification of patients (Dr. Turban's), as recommended by Dr. H. T. Bulstrode of the Local Government Board, had been adopted. 140 patients who had been under treatment four weeks and upwards had been discharged during the year with the following results: Of 51 patients who had the disease slightly and affecting one lobe or two half-lobes of the lungs (*Degree 1*) 23, or 45·1 per cent., left apparently cured and 43 returned to work. The average gain in weight was 21·1 pounds and the average stay was 15·6 weeks. Of 31 patients with consumption slight but more extensive than in Degree 1 affecting at most two lobes, or with severe disease and affecting one lobe only (*Degree 2*), there were no cures, but 22 were very much improved and 17 went back to work. The average gain in weight was 16·5 pounds and the average stay was 16·2 weeks. Of 58 patients with severe or very advanced disease (*Degree 3*) none were cured, 28 were very much improved, and 24 were restored to work, their average stay being 14·4 weeks and gain in weight 13·9 pounds. These figures show early treatment to be absolutely necessary for success and the after-results tell the same tale, as shown by the inquiry on April 30th last into the condition of 792 patients who had been treated in the sanatorium in the previous eight years. The after-results were as follows:—*Degree 1.* Of 267 patients in this class 239 were restored to work and 136 are still at work and have been so for periods varying from some months to seven and three-quarter years. 50 have been lost sight of, and as these were among the best cases on discharge most are probably still at work. It is interesting to note that of 14 discharged more than seven years ago half are still at work and only two are dead. *Degree 2.* Of 208 patients in this class 134 were restored to work, 42 are still at work, and 30 have been lost sight of. *Degree 3.* Of 317 patients in this class 130 were restored to work, only 44 of whom are still at work, and 16 are lost sight of. Whilst the after-results in the first class are excellent, those of the other two classes need cause no disappointment considering the shortness of their stay in the sanatorium (under four months) and the poverty and bad surroundings of many of the patients; and even to them and their friends the educational value of a stay in the sanatorium is great, and a proportion of the patients have been restored to work for months or years. An after-cure association and a working outdoor colony would improve these results greatly. The ordinary income was £3155, including £858 in 1*s.* yearly subscriptions from workmen, £1139 from local authorities which subsidise beds (at 30*s.* per week), and £827 from patients who pay weekly sums varying up to £2 2*s.* per week according to their circumstances. The ordinary expenditure was £2112. The average number of patients per day was 41·1, the cost of each patient per week was 18*s.* 6¼*d.*, and the average stay in the sanatorium was 13·8 weeks. The election of officers for the year and votes of thanks concluded the meeting.

Lunacy in Somerset.—At a meeting of the Somerset county council held on June 29th it was reported that there were 1560 patients in the county asylum, compared with 1495 for the corresponding period of 1907.

Children's Eyesight in Monmouthshire.—The elementary subcommittee of the Monmouthshire education committee at its meeting on June 30th reported that 600 cases of defective eyesight among the school children of the county had been satisfactorily dealt with.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Dr. Eugen Albrecht, director of the Institute of Pathological Anatomy, Frankfort, suddenly, at the age of 36 years. He was editor of the *Frankfort Pathological Journal.*—Dr. Auguste Reverdin, professor of surgery in Geneva.—Dr. J. Boy-Teissier of the Marseilles hospitals.—Dr. Stephan, head of the scientific department of the Antarctic expedition of the German navy.

Presentation to a Medical Practitioner.—On July 2nd Mr. Richard Macartney, L.R.C.P., L.R.C.S. Edin., was the guest of the evening at a public dinner held at Cinderford (Gloucestershire) under the presidency of Mr. M. Colchester Wemyss, chairman of the Gloucestershire county council. After the dinner the chairman, on behalf of the subscribers, presented Mrs. Macartney with a canteen of silver and Mr. Macartney received a cheque for £180. The presentations were made on the occasion of the silver wedding of Mr. and Mrs. Macartney to give expression to the respect felt for them in the district.

The Socialist Medical League.—At the first meeting of this league held on June 25th it was agreed that membership should be limited to registered British medical practitioners and dentists and that medical and dental students and non-British practitioners should be admitted as associates. The annual subscription was fixed at 5*s.* for qualified practitioners and 1*s.* for students. It was arranged to hold a yearly meeting during the annual meeting of the British Medical Association and in the same town. Dr. A. Salter (London) was elected chairman, Dr. Williams (Eastbourne) treasurer, and Mr. M. D. Eder (London) secretary to serve during the first year, together with a committee of 10 members.

The Western Valleys Medical Association.—A meeting of the medical practitioners of the Western Valleys (Mon.) was held at Crumlin on June 18th to consider the advisability of forming an association on similar lines to that already in existence in the Eastern Valleys. There was a large and representative attendance, and it was unanimously decided to form an association to be called "The Western Valleys Medical Association," the principal objects being to promote good feeling and *esprit de corps* amongst the members; to discuss and mutually settle all medical matters in the district; to safeguard the interests of the profession generally; to discuss medico-ethical and kindred subjects affecting the profession, and to read papers and show interesting cases.

Medico-Psychological Association of Great Britain and Ireland.—The honorary general secretary of this association draws our attention to the fact that in our announcement of the third International Congress on the Care and Treatment of the Insane, to be held in Vienna in October (THE LANCET, May 23rd, p. 1502), we named inadvertently three gentlemen as members of the British committee. They are, in fact, members of the Scottish committee. He adds that his association, at the request of the executive committee of the congress, appointed a committee at its recent meeting in London consisting of the following gentlemen:—Dr. Maurice Craig, Dr. Robert Jones, Dr. Charles A. Mercier, Dr. R. Percy Smith, Dr. T. Outterson Wood, and Dr. C. Hubert Bond, with power to add to their on the Chinese authorities. The fight against impure milk-supply in Shanghai is a stubborn one, as the system of fines in force has been found to have little other effect than to increase the price of milk in compensation for losses sustained. At the Shanghai mixed court a Chinese dairyman who had been found guilty of adulterating milk and heavily fined on three previous occasions was again brought before the court charged with a similar offence. The magistrate imposed a fine of 200 dollars, two months' imprisonment, and ten days' cangue—i.e., *exposing the delinquent in some* public place with his head projecting through a square wooden board on which are written his name and crime. Some years ago (in 1903) a *vaccination station* was *opened* at the Shanghai Municipal Laboratory under the direction of Dr. A. Stanley, the health officer. During the first year 520 vaccinations were made, but so impressed have the Chinese become with the efficient protective influence of vaccine lymph that they have come forward in yearly increasing numbers till during last March, in one month alone, no less than 1263 were vaccinated and the most satisfactory feature is that all who submitted themselves had *done so quite voluntarily.*

June 8th.

Medical News.

UNIVERSITY OF LONDON.—At examinations held in May the following candidates were successful:—

M.B., B.S. EXAMINATION.

Honours.—*†§ William Stephen Fenwick, B.Sc. (bracketed equal with A. Fleming for the University Medal), Charing Cross Hospital; *†‡ Alexander Fleming (bracketed equal with W. S. Fenwick for the University Medal), St. Mary's Hospital; *Arthur Norman Leeming, Guy's Hospital; †§ Edmund Garvin Mack, University College Hospital; †‖ Albert James Walton, B.Sc., London Hospital; § Charles Henry Shorney Webb, Middlesex Hospital; and †§‖ Edward Musgrave Woodman, St. Bartholomew's Hospital.

* Distinguished in Medicine. † Distinguished in Pathology.
‡ Distinguished in Forensic Medicine and Hygiene.
§ Distinguished in Surgery.
‖ Distinguished in Midwifery and Diseases of Women.

Pass.—Wilfrid G. Attenborough, King's College; George Norton Bartlett, Guy's Hospital; Bertram Henry Barton and Harry Blakeway, B.Sc., St. Bartholomew's Hospital; Harry Oliver Blanford, St. Thomas's Hospital; George Archibald Bosson, University College Hospital; Rhoda Hicks Butler and Muriel Constance Bywaters, London (Royal Free Hospital) School of Medicine for Women; Walter Horsfall Chesters, St. Mary's Hospital; Hilda Clark, University of Birmingham; James Aitken Clark, St. Thomas's Hospital; Winifred Julia Cox, London (Royal Free Hospital) School of Medicine for Women; David Morgan Davies, Charing Cross Hospital; Gladys Margaret C. Dunbar, London (Royal Free Hospital) School of Medicine for Women; Guy Stanley Earl, St. George's Hospital; Clara Eglington and Frederick Pearson Fisher, University of Birmingham; William Gilliatt, Middlesex Hospital; Edith Mary Guest, London (Royal Free Hospital) School of Medicine for Women; Charles Edward K. Herapath, University College, Bristol; Frederick George Hitch, London Hospital; Frank G. Hodder-Williams, St. Bartholomew's Hospital; Herbert Stanley Hollis, St. Mary's Hospital; Henry Holroyd, Middlesex Hospital; Eric Crichton Hood, University of Leeds; Hendrik Houwink, London Hospital; Rose Fanny Jordan, London (Royal Free Hospital) School of Medicine for Women; David Judah, University College Hospital; Harold Holmes King, St. Bartholomew's Hospital; Alfred John Lee, University College Hospital; Edward Leslie Martyn Lobb and Oswald Marriott, Guy's Hospital; Edward Kenneth Martin, University College Hospital; John Clarke Mead, St. Bartholomew's Hospital; Florence Muriel Morris, London (Royal Free Hospital) School of Medicine for Women; Ernest Edwin T. Nuthall, St. Thomas's Hospital; Mary O'Brien, London (Royal Free Hospital) School of Medicine for Women; John Parkinson, London Hospital; Evan Williams Parry, St. Thomas's Hospital; James J. Paterson, B.Sc., St. Bartholomew's Hospital; Edward Selby Phipson, University of Birmingham; Robert Bernard Price, St. Bartholomew's Hospital; Rowland Waters Rix, St. Thomas's Hospital; Mona Dew Roberts, London (Royal Free Hospital) School of Medicine for Women; Ernest Littleton Sandiland, London Hospital; Charles Fox Octavius Sankey, St. Thomas's Hospital; Frank Sholl Scott, University College, Bristol; Frederick George Sergeant, University College Hospital; Latimer James Short, University College, Bristol; Thomas Gordon S. Smith, St. Thomas's Hospital; Ethelbert William Squire, St. Mary's Hospital; Hugh Stott, Guy's Hospital; Alfred George Sworn, University College Hospital; Arthur Jessop Symes, St. Bartholomew's Hospital; Arnold Newall Thomas and Robert Evans Thomas, University College, Bristol; and Margaret Hannah Wild, B.A., London (Royal Free Hospital) School of Medicine for Women.

The following candidates passed in one of the two groups of subjects:—

Group I.—Alicia Pears Aldous, London (Royal Free Hospital) School of Medicine for Women; H. Talbot Sidney Aveline, University College, Bristol; Ralph Brown, Westminster Hospital; Thomas William Higgins Burne, St. Bartholomew's Hospital; Ethel Adelaide Douglas, London (Royal Free Hospital) School of Medicine for Women; Albert Edward Evans, Robert Cecil T. Evans, B.Sc., and Norman Kessen Foster, University College Hospital; Sidney Frank Fouracre, Charing Cross Hospital; Henry Leatham *Grabham and* William Andrew Morton Jack, St. Thomas's Hospital; William Johnson, Guy's Hospital; Evan John Goronwy Jones, University College Hospital; Elsie Marian Layman, London (Royal Free Hospital) School of Medicine for Women; William Percy Purdom, Guy's Hospital; William Percy Walker, London Hospital; and Sophia Margaret V. Witts, London *(Royal Free Hospital) School of* Medicine for Women.

Group II.—George Spence Candy and Cecil Colmer, London Hospital; Ernest Neville Cook, University College Hospital; Thomas Evans, Guy's Hospital; Harold Sydney Furness, University College Hospital; Gertrude Gazdar, London (Royal Free Hospital) School of Medicine for Women; Thomas John Hallinan, Charing Cross Hospital; George Blenkhorn Harland, University of Durham; Frederick Whewell Hogarth, Guy's Hospital; Max Herschel E. R. Montesole, St. Thomas's Hospital; Mary Elizabeth Parsons, London (Royal Free Hospital) School of Medicine for Women; William Joseph Petty, St. Thomas's Hospital; Thomas Edwin Pryce, University College Hospital; Rachael Hicks Shelley, London (Royal Free Hospital) School of Medicine for Women; Herbert George Willis and Charles McMoran Wilson, St. Mary's Hospital; and Courtenay Yorke, University of Liverpool.

B.S. EXAMINATION (*for Students who graduated in Medicine in or before May, 1904*).

Pass.—George Hutcheson, London Hospital.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

TRINITY COLLEGE, DUBLIN.—At examinations *held recently the following candidates passed in the subjects* indicated:—

INTERMEDIATE MEDICAL EXAMINATION.

Part I.—Henry L. W. Woodroffe, Andries A. Louw, James M. Elliott, Robert W. Murphy, Arthur F. B. Shaw, Francis C. Crosslé, William L. English, Thomas L. B. Bookey, Albert E. Malone, Thomas G. Harpur, Thomas W. E. Henry, Edgar N. Bateman, Reginald T. Vaugham, Hugh M'C. Fleming, William O. Halpin, Bernard G. Quinlan, Maurice Moore, Henry P. Harpur, and Robert E. Lee.

Part II.—Andries A. Louw, Charles W. M'Kenny, Charles Pentland, Francis J. A. Keane, William O. Halpin, Ernest W. G. Young, John Gardiner, Hugh R. M. Ferguson, Edward P. Allman-Smith, Gervase Scroope, Richard P. Pollard, and Robert E. Lee.

Purser Medal in Institutes of Medicine.—Henry L. W. Woodroffe.

FINAL MEDICAL EXAMINATION.

Part I.—Thomas A. Hughes, Albert J. Stals, David Duff, Douglas M. Moffatt, Robert E. T. Tatlow, Victor B. Kyle, Eric J. Powell, Cecil P. Smyly, Ralph T. St. J. Brooks, John D. Kernan, Benjamin A. Molyneux, George E. Craig, Adams A. M'Connell, Charles G. S. Baronsfeather, Joseph E. N. Ryan, Henry R. Kenny, and Charles B. Jones.

Part II., Surgery.—Dixie P. Clement, Albert V. J. Richardson, David G. Madill, Johannes C. *Pretorius*, Ernest C. Lambkin, Samuel F. A. Charles, Charles W. Laird, John A. W. Panton, William E. Hopkins, Robert de C. Wheeler, John A. L. Hahn, Duncan F. Hunter, Richard P. Hadden, James E. M'Causland, Edward J. H. Garstin, William Knapp, and William H. Sutcliffe.

Degree in Dental Science.—Arthur K. Macdonald.

Licence in Dental Science.—James I. Kelly.

PRELIMINARY SCIENTIFIC EXAMINATION.

Physics and Chemistry.—Hubert T. Bates, George H. Culverwell, Eileen M. Hewitt, Charles W. C. Myles, William H. R. M'Carter, Edgar H. Wilkins, Dorothy K. Milne, George Roe, John Colgan, Walter Crane, Jerome H. Counihan, William M. Johnstone, Jane F. Colquhoun, Jacobus M. S. Gericke, John T. Higgins, Thomas J. Magee, Charles T. Judd, Hugh G. Trayer, Charles D. Goodenough, Geoffrey A. Hoffman, William E. Fetherstonhaugh, and Kenneth K. Drury.

Botany and Zoology.—William H. R. M'Carter, James N. Armstrong, William O. W. Ball, Hugh G. Trayer, Cedric C. Mecredy, George Roe, Fred. A. V. Denning, Charles D. Goodenough, John Colgan, Jevan H. Powell, George H. Culverwell, Robert A. Flood, Antonie C. Redelinghuys, Jerome H. Counihan, Henry L. D'O. Duckworth, Walter Crane, Edward S. Johnson, Richard E. Tottenham, Jane F. Colquhoun, John Coulter, Edwin F. O'Connor, William P. Croker, Thomas J. Magee, Kathleen D. Wallace, John A. MacMahon, Kenneth R. Drury, James H. Grove-White, Maurice Horan, Reginald O. Smyth, Arthur P. Draper, James B. Taylor, Oswald V. Burrows, Hawtrey W. Browne, Joseph S. English, James R. Dobson, Thomas V. Oldham, Richard A. Stewart, Robert Hemphill, Geoffrey M. M. Fleming, Edward G. Fishe, Leslie J. Nugent, Eric C. Crichton, Robert H. Lyons, Joseph A. Maxwell, Albert W. D. Magee, and Henry B. F. Dixon.

FOREIGN UNIVERSITY INTELLIGENCE.—*Dorpat (Jurieff)*: Dr. V. C. Shukoffski has been recognised as *privat-docent* of Children's Diseases.—*Harvard*: Dr. John Warren has been appointed Assistant Professor of Anatomy.—*New York (University and Bellevue Hospital Medical College)*: Dr. Richard M. Pearce, Professor at Albany Medical College, has been appointed to the chair of Pathology.—*Pisa*: Dr. Andrea Boni has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Rome*: Dr. Edoardo Donetti has been recognised as *privat-docent* of Internal Pathology.—*St. Petersburg (Military Medical Academy)*: Dr. V. A. Oppel has been promoted to the chair of External Pathology.—*Turin*: Dr. Alberto Aggarrotti has been recognised as *privat-docent* of Experimental Physiology.

to compel them to undertake and carry out the duties which Parliament had cast upon them.—Mr. Runciman replied: Yes, sir, my attention has been drawn to certain cases where the local education authority has resolved to take no action under Section 13 of the Act, or has postponed indefinitely the consideration of the question. Steps are being taken both by correspondence and by local investigation to ascertain the manner in which arrangements for medical inspection are being initiated, and a clause has been inserted into the code requiring as a condition of the payment of the annual grant in respect of any school that satisfactory provision should be made for the medical inspection of the children attending the school. Failure on the part of the local authority to comply with the requirements of the Act may therefore in addition to, and not in substitution of, other statutory remedies result in the refusal of, or deduction from, the grant. Special attention has been called to this matter in the prefatory memorandum to the code, and I think the publicity attaching to the code will suffice to apprise the authorities of its requirements. The Board has no control over the salaries payable by local authorities to the officers engaged in medical inspection, except in so far as inadequate remuneration may be found to result in the inefficiency of inspection; and until the various schemes are in working order and the Board has had opportunities of comparing the methods and efficiency of medical inspection in the various areas, I should not be prepared to say whether any particular salaries can be regarded as insufficient.

Mr. Henry Gooch further asked the right honourable gentleman, whether the provision, prescribed in Article 58 (b) of the Code for 1908–09 for the medical inspection of all children admitted to an elementary school on and after August 1st, 1908, and of all children expected to leave school before July 31st, 1909, necessarily included all or any of the requirements specified in the Board of Education's Circular, 576; whether it was necessary that all the above examinations should be conducted by a qualified medical practitioner; and, if the answer be in the negative, which of the above examinations might be conducted by (a) a teacher; (b) a qualified nurse; whether the use of the schedule in the Board of Education's Circular, No. 582, was obligatory, and whether it must be filled up in every particular.—Mr. Runciman answered: As I recently stated to a deputation of which the honourable Member formed a part, inquiries as to the methods or machinery of medical inspection should obviously be addressed to the Board in writing and, if made, will receive prompt attention and, as far as possible, full replies. It is impossible to deal satisfactorily or completely with the matters of detail within the limits of an answer across the floor of the House, and I think I should be exposing both the Board and the local authorities to risk of misunderstanding if I attempted to do so. If the honourable Member communicates with the Board on behalf of a local authority I shall be glad to see that he has a written reply without delay.

Telephones and Disease.

Sir Edward Sassoon asked the Postmaster-General whether he was now in a position to say why the telephone companies should not be called upon to permit the adoption of the flat mouthpiece such as was allowed abroad, instead of the present retrograde and antiquated instrument, in the interests of hygiene and cleanliness.—Mr. Buxton replied: I have no power to call upon the National Telephone Company to adopt any particular form of telephone. The standard patterns now in use are, however, those which are considered most efficient by experts both in this country and in the United States, and it is easy for any subscriber to keep his telephone in a clean and sanitary condition. I am not sure which particular pattern the honourable Member has in view, but if he will give me information with regard to it I will have it examined.

The Dairies, Cowsheds, and Milkshops (Ireland) Order, 1908.

Mr. Hugh Barrie asked the Chief Secretary to the Lord Lieutenant of Ireland whether he had received numerous resolutions from public boards and public meetings recently held in Ireland protesting against the General Order of the Local Government Board respecting dairies, cowsheds, and milkshops; and whether he would defer the enforcement of the Order until the objections to portions of it had been reconsidered and dealt with.—Mr. Birrell (by written answer) replied: A comparatively small number of resolutions taking exception to the Order has been received. The Local Government Board afforded to all local authorities the fullest opportunity of considering the terms of the Order, a draft of it having been circulated in August last with a view to elicit their opinions. Any points made by local authorities were carefully considered, and certain modifications were made in the draft Order before its adoption in February. The Order came into operation on May 1st, and it would be undesirable to take any steps which would impede the local authorities in giving effect to it.

Mr. Hugh Law also asked the right honourable gentleman whether his attention had been drawn to a resolution of the Milford rural district council protesting against the Dairies, Cowsheds, and Milkshops (Ireland) Order, 1908, made by the Local Government Board, and representing that if enforced in their district it would occasion great hardship to the small farmers, who were not in a position to make the required structural alterations or generally to carry out the demands made by the Order; and what action he proposed to take in the matter.—Mr. Birrell furnished the following written reply: The Local Government Board received the resolution in question, and in reply thereto the Board pointed out to the council that it was their duty to arrange for the registration of cowkeepers, dairymen, and purveyors of milk within their district, but seeing that only a small dairying business is carried on there the Board indicated that the work of inspection might be performed by the sanitary sub-officers instead of by specially appointed dairy inspectors. The Board has reason to believe that only a few farmers in this district who habitually sell milk or supply milk to a creamery will be affected by the Order.

Tuesday, July 7th.

The Administration of the Butter Act in Scotland.

Mr. Flynn asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether his attention had been called to the fact that Section 1, Subsection (3), of the Butter and Margarine Act, 1907, was not being carried into effect in Scotland; whether steps were being taken by the Local Government Board to carry out Section 2, Subsection (1) of the same Act; and what action, if any, was being taken by the local authorities in Scotland to put Subsection (2) of Section 1, in regard to powers of inspection, entry, and sampling, into force.—Sir Edward Strachey answered: With regard to the first part of the question the answer is "yes." Steps have been taken and are being taken to give effect to the Act in Scotland. With regard to the second part of the question the Board of Agriculture is carrying out the subsection. As to the third part the Board is inquiring what action is being taken.

Wednesday, July 8th.

Medical Officers in the Highlands.

Mr. Weir asked the Secretary for Scotland whether he would state under what circumstances the appointment of medical officer of health had been conferred in four cases in the Highland crofting counties on officers who did not possess a diploma in sanitary science, as required under Section 54 of the Local Government (Scotland) Act, 1889.—Mr. Sinclair replied: One medical man holds two of the four appointments referred to, so that in three cases the salaries were sanctioned on condition that the medical officer of health should take the diploma in terms of Section 54 of the Local Government (Scotland) Act, 1889. In regard to the fourth appointment, it was given to the county medical officer of the district who was appointed before such a qualification was necessary. It is understood that in none of these cases were the services of a practitioner available who had the special qualifications.

BOOKS, ETC., RECEIVED.

Baillière, J. B., et Fils, 19, Rue Hautefeuille, Paris.

Nouveau Traité de Médecine et de Thérapeutique. Publié en Fascicules sous la Direction de MM. A. Gilbert et L. Thoinot. XIII. Cancer. Par P. Ménétrier, Professeur Agrégé à la Faculté de Médecine, Médecin de l'Hôpital Tenon. Price Fr.12.

Les Maladies du Cœur et leur Traitement. Par H. Huchard, Médecin de l'Hôpital Necker, Membre de l'Académie de Médecine. Price Fr. 6.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent Garden, London, W.C.

Aids to Tropical Medicine. By Gilbert E. Brooke, M.A. Cantab., L.R.C.P. Edin., D.P.H., F.R.G.S., Port Health Officer, Singapore. Price, cloth, 2*s.* 6*d.* net; paper, 2*s.* net.

Boothroyd, Eliot, Leighton House, 168, Fleet-street, London, E.C.

Low's Handbook to the Charities of London. 1908. (73rd Year of Publication.) Price 1*s.*

Cassell and Company, Limited, London, Paris, New York, Toronto, and Melbourne.

Hygiene and Public Health. By B. Arthur Whitelegge, C.B., M.D., B.Sc. Lond., F.R.C.P., D.P.H., late County Medical Officer of Health for the West Riding of Yorkshire, Chief Sanitary Officer of the West Riding of Yorkshire Rivers Board, Medical Officer of Health for Nottingham, and Lecturer on Public Health, Charing Cross Hospital Medical School; and George Newman, M.D., D.P.H., F.R.S.E., Lecturer on Public Health at St. Bartholomew's Hospital (University of London), late Medical Officer of Health of the Metropolitan Borough of Finsbury, Consulting Medical Officer of Health of the Bedfordshire County Council, and Demonstrator of Bacteriology and Infective Diseases in King's College, London. New and revised edition. Price 7*s.* 6*d.*

Churchill, J. and A., 7, Great Marlborough-street, London, W.

Saint Thomas's Hospital Reports. New Series. Edited by Dr. H. G. Turney and Mr. W. H. Battle. Volume XXXV. MDCCCCVIII. Price 8*s.* 6*d.* net.

Manual of Ophthalmic Surgery and Medicine. By Walter H. H. Jessop, M.A., M.B. Cantab., F.R.C.S. Eng., Senior Ophthalmic Surgeon to, and Lecturer on Ophthalmic Medicine and Surgery at St. Bartholomew's Hospital. Second edition. Price 9*s.* 6*d.* net.

A Manual of Midwifery. By Thomas Watts Eden, M.D., C.M. Edin., F.R.C.P. Lond., F.R.C.S. Edin., Obstetric Physician with Charge of Out-patients and Lecturer on Practical Midwifery and Gynæcology, Charing Cross Hospital. Second edition. Price 12*s.* 6*d.* net.

Cornish Brothers, Limited, Birmingham.

Points of Practice in Maladies of the Heart. Lumleian Lectures at the Royal College of Physicians of London. By James Sawyer, Knt., M.D. Lond., F.R.C.P., F.R.S. Edin., F.S.A., Consulting Physician to the Queen's Hospital, lately a Professor of Medicine in the Queen's College. Price not stated.

Duckworth and Co., 3, Henrietta-street, Covent Garden, London, W.C.

The Worker's Handbook. By Gertrude M. Tuckwell and Constance Smith. Price 3*s.* 6*d.* net.

Enke, Ferdinand, Stuttgart.

Geschichte der Medizin. Von Dr. Max Neuburger, a.o. Professor für Geschichte der Medizin an der k.k. Universität in Wien. Zwei Bände. II. Band. 1 Hälfte. Price M.5.40.

Fischer, Gustav, Jena.

Die Trypanosomenkrankheiten und ihre Beziehungen zu den syphilogenen Nervenkrankheiten. Untersuchungen aus dem Institut für Schiffs- und Tropenkrankheiten in Hamburg und aus der psychiatrischen Klinik in Freiburg i.Br. Von Dr. Walther Spielmeyer, Privatdozenten und Assistenten an der psychiatrischen Klinik in Freiburg i.B. Price M.10.

Arbeiten aus dem Königlichen Institut für Experimentelle Therapie zu Frankfurt a.M. Herausgegeben von Geh. Ober-Med.-Rat Prof. Dr. P. Ehrlich. Heft 4. Bakteriologisch-Hygienische Abteilung: Prof. Max Neisser. Price M.2.50.

Gratton Press, The, 70, Fifth-avenue, New York City.

Subcutaneous Hydrocarbon Protheses. By F. Strange Kolle, M.D., Author of "The Recent Röntgen Discovery," &c. Price $2.50.

Green, William, and Sons, Edinburgh and London.

Green's Encyclopedia and Dictionary of Medicine and Surgery. Vol. VIII. Physiology—Rhinolalia. Price not stated.

numbers. To these have since been added Dr. B. H. Mumby and Dr. J. Milson Rhodes.

THE TEIGNMOUTH (DEVON) INFIRMARY.—As a result of a fête held at Teignmouth last week the sum of £197 has been raised for the local infirmary.

A WELSH CENTENARIAN.—David Williams, who was born on March 16th, 1804, died on June 15th at Hendre Fawr farm, Pontardulais.

ON July 1st the "new holiday home" which has been given by Dr. C. A. Hingston of Plymouth to the local Young Men's Christian Association was formally opened in the presence of a large gathering.

DONATIONS AND BEQUESTS.—The late Mr. W. H. Trewin has bequeathed £1000 to the funds of the Bideford (Devon) Infirmary and Dispensary.—St. Mary's Hospital has received an anonymous donation of £5000.

CARDIFF INFIRMARY.—Mr. John Cory has promised that if the residents of Cardiff and district will contribute £5000 annually for the next two years to the Cardiff Infirmary he will augment the amount by 25 per cent.

THE SCHOOL DENTISTS' SOCIETY.—A general meeting of the School Dentists' Society took place at the rooms of the Incorporated Society of Medical Officers of Health, 1, Upper Montague-street, Russell-square, London, W.C., on June 22nd. The President, Mr. Sidney Spokes, M.R.C.S., L.D.S. Eng., took the chair, and a paper was read by Mr. Bryan J. J. Wood, L.D.S. Eng., entitled "An Experiment in a School Dental Clinic and its Lessons." A discussion took place and at the close of the proceedings a vote of thanks was accorded to Mr. Wood for his interesting contribution to the Transactions of the society.

A SUMMER HOLIDAY FOR MEDICAL MEN.—The English representative of the Bathing Establishments and Associated Grand Hotels at Roncegno, South Tyrol, is authorised by the proprietor, Dr. Waiz, to invite a small party of British medical men to spend a portion of their holiday at Roncegno. No expense will be attached to the holiday beyond the cost of the railway tickets at party rates to the Austrian frontier, the Imperial Railway Ministration having kindly offered to place special free railway tickets in Austria at the disposal of Dr. Waiz's representative. Further details will be supplied by Mr. Galloway Kyle, 47, Fleet-street, London, E.C.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Children Bill.

THE Children Bill has passed through a Standing Committee of the House of Commons and been ordered to be reported to the House. Its consideration by the Committee extended over two months and 363 amendments and new clauses were moved during that time. The Bill ranges over a wide field of law affecting children, and amongst other matters with which it deals are infant life protection and juvenile smoking. The clauses dealing with the latter subject underwent modification in the course of the discussions and the Government has promised to introduce a provision during the debates on the report stage making it clear that constables and park-keepers shall have no right to search children suspected of having cigarettes in their possession. When the Committee stage was completed on Thursday, July 2nd, an unusually warm compliment was paid to Mr. HERBERT SAMUEL, the Under Secretary to the Home Department, for the ability and tact which he had displayed in taking charge of the Bill. The Chairman of the Committee, Mr. LAURENCE HARDY, declared that in the ten years during which he had presided over standing committees he had never known a Bill conducted in such a business-like manner as this. Mr. SAMUEL attributed the progress made with the Bill primarily to the absence of any controversial spirit in any member of the Committee.

The Royal College of Surgeons in Ireland and the New Dublin University.

In the Standing Committee of the House of Commons which is dealing with the Irish Universities Bill a proposal was made by Mr. CAMPBELL on Monday, July 6th, to include at least one member of the Council of the Royal College of Surgeons in Ireland and another of the Royal College of Physicians of Ireland amongst the Crown nominees to the governing body of the new University having its seat in Dublin. Mr. BIRRELL would not accept this proposal on the ground that it struck at the root of the whole principle on which hitherto he has acted—viz., not to recognise such chartered bodies or any other associations of individuals as being as such entitled to representation. Mr. DILLON remarked that once representation was given to one body all the other professional bodies in Dublin would have a plausible claim to representation. The proposal of Mr. CAMPBELL was ultimately defeated by 18 votes to 8.

The Coroners' Inquests Bill.

The Coroners' Inquests Bill, which proposes to dispense with the compulsory viewing of bodies at coroners' inquests, has passed through its report stage in the House of Commons.

HOUSE OF LORDS.

MONDAY, JULY 6TH.

Nurses' Registration Bill.

Lord AMPTHILL moved the second reading of this Bill, and after some discussion by Lord CREWE and Lord LANSDOWNE the Bill was read a second time, it being understood that their lordships were committing themselves only to the bare principle enunciated and not to the details.

HOUSE OF COMMONS.

THURSDAY, JULY 2ND.

Cases of Lead Poisoning.

Sir CHARLES DILKE asked the Secretary of State for the Home Department whether there had been reported to the Home Office an extraordinary incidence of lead poisoning at the Woodland Pottery, Tunstall; whether a portion of Rule 2 in the amended special rules, established by the award of Lord James of Hereford, declared that if any factory to which the rule applied should, by reason of the occurrence of cases of lead poisoning, appear to the Secretary of State to be in an unsatisfactory condition he might prohibit the use of lead; whether this rule had been put in force; and whether he would consider the propriety of applying it to such cases.—Mr. GLADSTONE replied: Yes, sir. 11 cases of lead poisoning at these works, three of which, however, are doubtful, have been reported to the Factory Department during the current year, as compared with three in 1907, none in 1906, two in 1905, nine in 1904, and one in 1903. Proceedings were taken in April last against the firm and application made under Section 18 for an order prohibiting the works being used until the necessary alterations had been made. On the firm giving an undertaking to remedy the defective arrangements for drying and ware cleaning, to which the heavy incidence of poisoning is attributed, the stipendiary, with the concurrence of the medical inspector and the lady inspector in charge of the case, adjourned the hearing. The alterations, which are a difficult matter and will cost, I understand, some £5000, are now being carried out and are to be completed by August 23rd. As regards the second part of the question, there is such a power as mentioned in the special rules. It is a power which is intended only for very exceptional cases and has not hitherto been used. In view of the action of the stipendiary I do not think I could properly direct action to be taken under this special power at present, but the works will be kept under observation, and if heavy incidence of poisoning continues I shall consider what further action, whether under rule or otherwise, is required.

The Medical Arrangements in Belfast Infirmary.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the report of the Local Government Board inspector, Mr. Agnew, on the Belfast workhouse, and particularly to the inspector's references to the unsatisfactory nature of the nursing and medical arrangements; and whether any explanation had been forthcoming from the guardians with regard to these matters.—Mr. BIRRELL replied: The report in question points out that the number of charge nurses employed in the Belfast Infirmary is too small in proportion to the number of probationers and that in the auxiliary workhouse for consumptives the medical arrangements cannot be considered satisfactory. There are 1600 beds in the infirmary and about 180 nurses, and apart from the matters mentioned the inspector's comments upon the nursing and medical arrangements are most favourable. The guardians have adjourned the consideration of the report in order that it may be printed and circulated amongst them.

Motor Omnibus Accidents in London.

Mr. ALDEN asked the Secretary of State for the Home Department whether he could state the number of accidents, fatal or otherwise, due to motor-omnibuses during the last two months in London and the surrounding districts; in what portion of Greater London had these accidents been most frequent; and what steps he proposed to take to remedy the evil.—Mr. GLADSTONE answered: The number of accidents in the metropolitan police district caused by motor-omnibuses including those which did and did not cause personal injury was 334 in April and 483 in May. Five persons were fatally injured by such accidents in April and 12 in May. The figures for June are not yet available. Such accidents had been most frequent in Oxford-street where 67 occurred, in Barking-road with 30, and in King's-road, Chelsea, with 33 during the time mentioned. As I have often said, the police do their very best under the existing law to put a stop to dangerous driving, but I am considering whether it would not be possible and, if so, whether it would not be desirable, to reduce the speed limit of motor omnibuses to ten miles an hour as a condition of their licence.

MONDAY, JULY 6TH.

The Medical Inspection of School Children.

Mr. TENNANT asked the President of the Board of Education whether his attention had been called to the failure of certain local education committees to carry out their statutory duties of providing for the medical inspection of school children and to the inadequate salaries which some local education authorities proposed to pay for this important duty; whether he proposed to take steps to ascertain the manner in which these duties were about to be performed, and, if so, when these steps would be taken; and whether he proposed to inform the various local education authorities of any measures contemplated

WICH, CITY OF.—Assistant Medical Officer of Health and Bacteriologist. Salary £130 per annum and allowances.

HAM COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £200 per annum.

ERBOROUGH INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

LAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

EEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Physician and Two House Surgeons for six months. Salaries at rate of £60 per annum, with board, residence, and laundry.

YAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with board, lodging, and washing.

YAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £50 per annum, with board and washing.

MARY'S HOSPITAL, London, W.—Honorary Anæsthetist.

MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstrator of Physiology. Salary £150 per annum.

PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road.—Resident Medical Officer. Salary £105 per annum, with residence and attendance.

RBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with residence, board, and allowance for laundress.

EFFIELD, EAST-END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

EFFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £65 per annum, with board and residence. Also Assistant House Physician. Salary £60 per annum, with board and residence.

REWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £60 per annum, with board and apartments.

IGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

CTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Surgeon to In-patients.

ARRINGTON COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £250 per annum.

ARWICK, HATTON ASYLUM.—Third Assistant Medical Officer. Salary £135 per annum, with board, lodging, attendance, and laundry.

ESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Physician. Also Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

ESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

EST SUSSEX AND CHICHESTER JOINT EDUCATION COMMITTEE.—Medical Inspector of Schools. Salary £350 per annum and expenses.

HITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with board and lodging.

OLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

ORCESTER GENERAL INFIRMARY.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

HE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Accrington, in the county of Lancaster; and at Oughtibridge, in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

ENT.—On July 1st, at Effingham Lawn, Dover, the wife of Charles A. Kent, M.D., of a son.

CATLIFF.—On July 2nd, at 11, Charlotte-street, Brighton, the wife of Harold Scatliff, M.A.; M.R.C.S., of a daughter.

ALTER.—On July 1st, at Wallingford-on-Thames, the wife of Edwin C. Walter, M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGES.

EITCH—LOCHHEAD.—At The Milton, Colintraive, on July 3rd, by Rev. Dugald M'Cormick, Rothesay, assisted by Rev. Gavin J. Tait, Paisley, and Rev. Alexander M'Gilp, Colintraive, Archibald Leitch, M.B., Ch.B., Cancer Research Laboratories, Royal Infirmary, Dundee, to Ethel Macleod, M.B., Ch.B., daughter of J. M. Lochhead, Sheriff-Clerk of Renfrewshire.

INTO LEITE—WILSON.—On July 6th, at the Church of the Holy Name, Manchester, by the Rev. Bernard Vaughan, S.J., assisted by the Rev. Thomas Brown, S.J., Rector, Hubert Pinto Leite, B.A. Cantab., L.R.C.P. Lond., M.R.C.S. Eng., eldest son of Joaquim Pinto Leite, Vice-Consul for Portugal in Manchester, and Mrs. Pinto Leite, to Dorothy, only child of W. H. Wilson and Mrs. Wilson, late of Manchester. At home, 5, Doughty-street, London, W.C., Sept. 8th, 9th, and 10th.

ATSON REID—FORREST.—On July 1st, at Christ Church, Crookham, Robert Watson Reid, M.B., to Emily Christina Maud, daughter of the late Elton Forrest and Mrs. Forrest.

DEATHS.

HBY.—On July 5th, at Lancaster-road, Didsbury, Manchester, Henry Ashby, M.D., aged 62 years.

ROCK.—At 5, Manor-place, Edinburgh, suddenly, on July 6th, William John Brock, M.B., D.Sc. F.R.S.E., Medical Officer of Health for Midlothian, West Lothian, and Peebles-shire.

WYNN.—On July 1st, at St. Mary's House, Whitchurch, Salop, S. Tayleur Gwynn, M.D., in the 83rd year of his age.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE LANCET AND THE CURE OF CANCER.

To the Editor of THE LANCET.

SIR,—May I say, in reply to your strictures in your last issue, of my cure of cancer?

(1) When I cured my first case in 1903, I went up to London to tell my son-in-law, Dr. Gage-Brown, all about it. He simply replied, "The diet would kill the patient." To show England this was not so I trained a Lancashire working man to do a walk of 600 miles in ten days on the diet. The like was never done. I enclose an account of the training. You may study it and make as many inquiries as you like about it.

(2) There is a case of cancer cured in Brigstock—Herbert Crosby. You may see him and examine for yourself.

(3) Widow Neal of Burton Latimer, cured in 1903, said: "We shall now get the £20,000, and I shall have some of the money, and take a villa in Italy, and go and live there."

(4) I may say I was the first in the field to advocate the dietetic method as the right treatment of disease. I am glad to see, however, that both in this country and in America many are following it to-day.

(5) Dr. Robert Bell, late senior physician of the Women's Hospital, Glasgow, lecturing in Caxton Hall a few months ago, reported by the *Morning Post*, claimed the dietetic method as the only treatment for cancer. This he did after repudiating 15 years' experience in operations.

(6) Dr. Elmers Lee, 137, West 58th-street, New York, says the dietetic method is the only successful one. Others say the same.

(7) True, it follows that "Cancer Research," "Listerism," "Notification," "Isolation," "Disinfection," the L.G.B., the need for our heavy rates and taxes, &c., &c., all go now for very little. This, however, is of small consideration in comparison with the boon that the cure of cancer and disease generally means.

May I ask you in all fairness, in the name of common honesty, in the interests of humanity, and particularly in the name of truth, to publish this letter? I am, Sir, your obedient servant,

Brigstock, Thrapston, July 2nd, 1908. J. P. SANDLANDS.

⁂ We publish Mr. Sandlands's letter because he urges us to do so in the name of truth, but we would ask him to consider his own responsibilities towards truth. On the strength of what he calls "cures," he is urging the public to disbelieve in the whole system of scientific medicine. He may not know that he is ranging himself on the side of falsehood, his words may be inspired by honest belief; but he comes by his belief because his faith in himself is colossal and because his knowledge of medicine is *nil*. He incloses us a little pamphlet purporting to describe how he trained a working man to become an athlete. It is a glorification of himself—"My eyes have been opened and I have been labouring hard and long at this business. It would be a strange thing if I should miss the mark." And again—"I know from the best of reasons—experience—that it [disease] is nothing but that which we put into our stomachs. The cause of all our diseases is there." We learn of Mr. Sandlands's acumen as a veterinary surgeon—how he cured the baker's horse and taught two colonials to pasture their cattle properly, but we do not see one word in the pamphlet which supports Mr. Sandlands's claims to be a cancer curer. The pamphlet appears to be written in advertisement of certain composts of fruit and nuts which are advertised on its cover and we have no question to ask concerning it.—ED. L.

SIC VOS NON VOBIS.

To the Editor of THE LANCET.

SIR,—Some recent discussions over the Patents Acts induce me to offer some remarks on the simplicity of our profession in placing free, gratis, and all for nothing at the disposal of the public the products of our brains. Science and humanity are all very fine in their way, but this thing may be, and is being, carried too far. I read myself, or rather I presented, a paper at the Glasgow meeting of the British Medical Association in the "eighties" which dealt with the then fundamental defect in the preparation of meat juices. The paper made a fortune for several English companies, but when I appealed to them for some compensation they refused me any, though they could afford to advertise a column of my paper in the pages of THE LANCET for nearly the round of a year. Have not numbers of our profession the same story to tell, and is not all this a very great grievance? The sums which have been made by one great English company alone through and by my paper tot up to hundreds of thousands of pounds in a single year, and not even a crumb could they spare for Your obedient servant,

Cashel, July 4th, 1903. THOMAS LAFFAN.

⁂ We fear that we cannot sympathise with Mr. Laffan in his complaint, but we publish it at his desire. A medical man reading a paper at a medical congress has as his aim the education of his *confrères* and the benefit of the public by the improvement of medical knowledge. Mr. Laffan has no claim, moral or sentimental, upon these hundreds of thousands of pounds of income or upon the fortunes of the several English companies, even though these may have been created by his pen.—ED. L.

HURST AND BLACKETT, LIMITED, 182, High Holborn, London, W.C.

Friedberger and Fröhner's Veterinary Pathology. (Authorised Translation.) Translated by M. H. Hayes, F.R.C.V.S., Author of "Points of the Horse," "Veterinary Notes for Horse Owners," &c. With Notes on Bacteriology by Professor R. Tanner Hewlett, M.D., F.R.C.P., M.R.C.S., D.P.H. Two volumes. Sixth edition, revised and enlarged. Price 21*s.* net.

KABITZSCH, CURT (A. STUBER'S VERLAG), Würzburg.

Diät-Vorschriften für Gesunde und Kranke jeder Art. Von Geheimem Medizinalrat Dr. J. Borntraeger, Regierungs-und Medizinalrat in Düsseldorf. Fünfte verbesserte und erweiterte Auflage. Price M.2.50.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., LIMITED, Dryden House, Gerrard-street, London, W.

Religion and Medicine. The Moral Control of Nervous Disorders. By Samuel McComb, M.A. Oxon, D.D. Glasgow, Elwood Worcester, D.D., Ph.D., and Isador H. Coriat, M.D. Price 6*s.* net.

LAURIE, T. WERNER, Clifford's Inn, Fleet-street, London, E.C.

The Abbeys of Great Britain. By H. Claiborne Dixon. Price 6*s.* net.

Do the Dead Depart? And Other Questions. By E. Katharine Bates, Author of "Seen and Unseen," &c. Price 6*s.* net.

LEHMANN, J. F., Heustrasse, 20, München.

Die Orthoröntgenographie. Anleitung zum Arbeiten mit parallelen Röntgenstrahlen. Von Dr. Franz M. Groedel, Bad-Nauheim. Price M.3.

LEWIS, H. K., 136, Gower-street, London, W.C.

Extraction of Teeth. By F. Coleman, L.R.C.P., M.R.C.S., L.D.S., Assistant Dental Surgeon to St. Bartholomew's Hospital. Price 3*s.* net.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

Why Worry? By George Lincoln Walton, M.D., Consulting Neurologist to the Massachusetts General Hospital. Price 4*s.* 6*d.* net.

The Harvey Lectures. Delivered under the Auspices of the Harvey Society of New York, 1906–07. By Prof. A. E. Wright, Prof. C. A. Herter, Prof. W. T. Porter, Prof. J. G. Adami, Dr. S. J. Meltzer, Prof. F. G. Benedict, Prof. E. B. Wilson, Prof. George S. Huntington, Prof. W. T. Councilman, and Prof. Friedrick Müller. Price 9*s.* net.

International Clinics. Edited by W. T. Longcope, M.D., Philadelphia, U.S.A., with Collaboration. Volume II. Eighteenth Series, 1908. Price not stated.

LIVINGSTONE, E. AND S., 15, Teviot-place, Edinburgh.

Applied Anatomy, Surgical, Medical, and Operative. By John M'Lachlan, M.D., F.R.C.S. Eng. Revised and largely rewritten by A. A. Scot Skirving, C.M.G., F.R.C.S. Edin., Assistant Surgeon, Edinburgh Royal Infirmary; Surgeon, Leith Hospital. Two volumes. Fourth edition. Price 18*s.* net.

LONG, JOHN, Norris-street, Haymarket, London.

Glimpses of the Ages, or the "Superior" and "Inferior" Races, So-called, Discussed in the Light of Science and History. By Theophilus E. Samuel Scholes, M.D., &c. Price 12*s.* net.

UNIVERSITY TUTORIAL PRESS, Burlington House, Cambridge.

University Correspondence College. The Calendar, 1907–1908. Price 1*s.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BUCKLEY, G. GRANVILLE, M.D., Ch.B. Vict., D.P.H., has been appointed Medical Officer of Health and Medical Officer to the Education Committee of the *Borough of Crewe.*

CAIRD, F. M., M.B., M.S. Edin., has been appointed Regius Professor of Clinical Surgery in the University of Edinburgh.

DAVIS, HENRY, M.R.C.S., L.S.A., has been appointed Consulting Anæsthetist to St. Mary's Hospital, Paddington.

FRIPP, Sir ALFRED D., K.C.V.O., C.B., M.S. *Lond.*, F.R.C.S. Eng., has been appointed Surgeon to Guy's Hospital.

GOLDING-BIRD, C. H., F.R.C.S. Eng., has been appointed Consulting Surgeon to Guy's Hospital.

LACEY, F. HAMILTON, M.B., Ch.B. Vict., has been appointed Resident Surgical Officer at St. Mary's Hospital for Diseases of Women and Children, Manchester.

MARTIN, ANTONY A., M.D. Lond., B.S., M.R.C.S. Eng., L.R.C.P. Lond., D.P.H., has been appointed Medical Officer to the Board of Education and to the Post Office, Eastbourne.

MITCHELL, ALEX., M.B., Ch.B., has been appointed an Assistant Anæsthetist to the Aberdeen Royal Infirmary.

NOWELL, W. S., M.R.C.S., L.D.S., has been appointed Dental Surgeon to the Middlesex Hospital.

ROWNTREE, SIDNEY J., M.R.C.S., *L.R.C.P. Lond.*, has been appointed Clinical Assistant at the Hospital for Consumption and Diseases of the Chest, Brompton, S.W.

SEDGWICK, R. E., M.D., B.C. Cantab., has been appointed Honorary Surgeon to the Carlisle Dispensary.

TAYLOR, ROBERT STANLEY, B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been appointed Medical Officer of the Lacock District by the Chippenham (Wilts) Board of Guardians.

TURNER, PHILIP, M.B. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to Guy's Hospital.

Vacancies.

For further information regarding each vacancy reference s made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Ho sician; also House Surgeon, each *for six months.* Sa rate of £20 per annum, with board and lodging.

BIRMINGHAM INFIRMARY.—Assistant Resident Medical Officer. £104 per annum, with apartments, rations, attendance, &c.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Physician for three Salary at rate of £50 per annum, with board, lodging, and

BOLINGBROKE HOSPITAL, Wandsworth Common.—Junior Surgeon for six months. Salary at rate of £75 per annu board, lodging, and washing.

BRADFORD UNION HOSPITAL AND WORKHOUSE.—Assistant Medical Officer. Salary £100 per annum, with rations, apar and washing.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDRE road.—House Surgeon for six months. Salary £80, with lodging, and washing.

BRITISH MEDICAL ASSOCIATION.—Assistant Medical Secretary. £500 per annum.

BURNLEY, VICTORIA HOSPITAL.—Resident Medical Officer. £100 per annum, with residence, board, and washing.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.- Surgeon, unmarried. Salary £100 per annum, with bo lodging.

CANCER HOSPITAL, Fulham-road, London, S.W.—Director of Research and *Pathological Department.* Salary £600 per Also Assistant Anæsthetist. Salary 25 guineas per annum.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unm Salary £100 per annum, with apartments, board, attendance,

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior Surgeon. Salary £60 per annum, with board, apartmen laundry.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Park, E.—Clinical Assistant.

CITY OF LONDON UNION INFIRMARY.—Assistant Medical Superint Salary £150 per annum, with apartments, rations, and washi

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. £80 per annum, with board, residence, and washing.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—Assistant House S for six months. Salary at rate of £60 per annum, with residence, and washing.

DEVONPORT, ROYAL ALBERT HOSPITAL AND EYE INFIRMARY.— ant Resident Medical Officer, unmarried, for six months. Sa rate of £50 per annum, with board, lodging, and laundry.

DORCHESTER, DORSET COUNTY ASYLUM.—Junior Assistant Officer. Salary £140 per annum, with board, &c.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridg London, S.E.—House Surgeon for nine months. Salary at £60 per annum, with board, *residence,* and washing. Also thetist. Salary at rate of 25 guineas per annum.

GENERAL LYING-IN HOSPITAL, York-road, Lambeth, S.E.—R Medical Officer for four months. *Salary at rate of* £50 per a with board and lodging.

GREAT NORTHERN CENTRAL HOSPITAL.—Physician.

HAMPSTEAD GENERAL HOSPITAL.—Gynæcologist, Surgeon t Throat and Ear Department, and Physician to the Skin ment.

HANLEY, STOKE, FENTON, AND LONGTON JOINT HOSPITAL.—R Assistant Medical Officer (female). Salary £100 per annum apartments, board, washing, and attendance.

HEREFORDSHIRE GENERAL HOSPITAL.—House Surgeon, unm Salary £100 per annum, with board, apartments, and washing

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Bro —Assistant Resident Medical Officer. Salary £100 per annum board and residence.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, House Physician, House Surgeon, and Assistant Casualty Also Surgeon to Out-patients. Also Anæsthetist.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—House Su Salary £65 per annum.

LANCASTER, ROYAL LANCASTER INFIRMARY.—House Su *unmarried.* Salary £100 per annum, with residence, attendance, and washing.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. £100 per annum, with board and lodging.

LIVERPOOL, MILL-ROAD INFIRMARY.—Two Assistant Resident M Officers, unmarried. Salary £100 per annum, with board.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salar per annum, with board, residence, and washing.

LONDON HOSPITAL.—Clinical Pathologist. Salary £350 per annum

LONDON THROAT HOSPITAL, 204, *Great* Portland-street, W.— Surgeon, non-resident, for six *months. Salary* at rate of £ annum. Also Anæsthetist.

METROPOLITAN BOROUGH OF ST. MARYLEBONE.—Temporary D Medical Officer of Health. Salary at rate of 5 guineas per wee

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Assistant Surgeon. Salary £75 per annum, with residence, board washing.

MIDDLESEX HOSPITAL W.—Emden and Hollins Scholarships Cancer Research Laboratories, value £100 and £105 respect Also Assistant Dental Surgeon.

MILE END OLD TOWN INFIRMARY AND WORKHOUSE, Bancroft-ro —Assistant Medical Officer, unmarried. Salary £150 per an with board, lodging, and washing.

MILLER GENERAL HOSPITAL, Greenwich-road, S.E.—House Su for six months. Salary at rate of £80 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. £160 per annum.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF CINE.—Demonstrator of Bacteriology. Salary £250 per annum.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), West London (2.30 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (18th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index to Vol. I. of 1908, which was completed with the issue of June 27th, and the Title-page to the Volume, were given in THE LANCET of July 4th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1908 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

A BOGUS MEDICAL MAN.

At the Essex assizes held at Chelmsford last month one Charles Cubben was sentenced to five years' penal servitude for bigamy. He was duly described in the press as "a doctor," but he had no right to such a style. His ingenious practice was to assume the names of persons whose address was given in the Medical Directory and Register as being abroad and then to masquerade as a practitioner. He appears to have done this for years, having on two occasions been fined for giving false medical certificates. It does not seem possible to protect the public from this particular kind of fraud. When a person whose name is not on the Register professes to have medical skill and imposes upon the public thereby we can have no sympathy with the public. It is only necessary to consult the Medical Register to expose the false pretence. But when, as in Cubben's case, the name of a duly registered medical practitioner is assumed the situation is a difficult one to deal with.

THE CAUSATION OF SEX.

To the Editor of The Lancet.

Sir,—In The Lancet of Jan. 21st, 1905 (p. 188), a letter headed as above and signed "Medicus Alter" appeared. Can you give me the name and address of the writer, as I might be glad to communicate with him.

I am, Sir, yours faithfully,
July 4th, 1908. N. E.

*** We publish the above on the chance that it may catch the eye of "*Medicus Alter*," *whose identity is lost to us at this lapse of time.*—Ed. L.

COUNTRY IN TOWN EXHIBITION.

The object of the Country in Town Exhibition, the third of its kind, which was opened by the Poet Laureate, Mr. Alfred Austin, at the Whitechapel Art Gallery on July 2nd, is primarily to show what may be done to cultivate flowers in town gardens, especially those of the east end of London, and thus to brighten the lives of many who by reason of social and economic conditions are compelled to spend their lives in an ugly environment. From this point of view the exhibition leaves nothing to be desired, though, taken as a whole, the two previous exhibitions possessed more attractive features. An interesting exhibit in the present exhibition is the large model of an open-air school designed for 100 children. The model is roughly on the scale of half an inch to a foot and shows the position and new type of class-rooms, verandahs, sleeping sheds, dining shed and kitchen, assembly shed, offices and baths, and the general plan of the grounds. Photographs of the model can be had for 1*s.*, and a leaflet describing the nature and object of open-air schools, with full details of the buildings, dimensions, and estimates, for 1*d.* The catalogue is also well worth the penny which is charged for it, as it contains a variety of information useful to naturalists and school teachers. The honorary secretary of the exhibition, which is open daily from noon to 9.30 p.m., with the exception of the last day of the exhibition, July 16th, when 8 p.m. has been fixed as the closing hour, is Mr. H. E. Turner, 1, Grosvenor Park, Camberwell, S.E., from whom further information can be obtained.

LOSS OF TASTE.

To the Editor of The Lancet.

Sir,—*One of my patients* has been *puzzling* me for some time He has complete loss of taste and refuses food. Would any one of your. readers who have had similar experience give me advice?

I am, Sir, yours faithfully,
Αθηναιος.

EAST COAST HOLIDAYS.

An attractive little handbook with artistic coloured pictures and maps of holiday resorts which are served by the *Great Eastern Railway* Company has been written by Mr. Percy Lindley, and published at 30, Fleet-street, London, E.C. A list of eastern counties golf links and particulars of fishing and yachting are appended as well as a section entitled "From East Coast to Continent." The coloured pictures are good; the artist has pourtrayed the sentiment of the scenes rather than their reality and *has been successful in his* imagining.

◆

Anxious is strongly *advised to* have no dealings with a well-known charlatan.

Mr. R. W. Bruce describes a very common sensation.

Communications not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Hull Times, Hull Mail, Daily Chronicle, Notts Express, Sheffield Telegraph, Wolverhampton Express, The Observer, Manchester Dispatch, Manchester Evening Chronicle, Bradford Observer, Birmingham Dispatch, Yorks Evening Post, Dundee Observer, Dundee Advertiser, Weekly Dispatch, Norfolk Standard, Manchester City News, Westminster Gazette, The Star, Daily Telegraph, Daily News, Electrical Engineering, Local Government Officer, Glasgow Evening Citizen, Morning Advertiser, Glasgow Evening News, Shrewsbury Record, Saturday Review, Scientific American (New York), &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

The Lancet Office, July 9th, [illegible]

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks
July 3	30·20	E.	...	127	84	59	60	69	Fine!
" 4	30·05	E.	0·33	79	62	58	57	59	Raining
" 5	30·10	E.	0·17	111	69	57	59	61	Overcast
" 6	30·04	SSW	...	119	73	58	58	62	Cloudy
" 7	29·93	N.W.	...	122	73	59	58	62	Cloudy
" 8	29·87	S.W.	...	96	65	58	60	63	Cloudy
" 9	29·80	W.	0·09	106	69	56	57	62	Cloudy

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square W.

Thursday.
Dermatological Section: at 5 p.m.
Cases:
Dr. David Walsh: (1) Neurofibromata (?) and Fibromata; (2) A Case for Diagnosis.
Dr. Tom Robinson: Keratodermia Palmaris.
Dr. Galloway and Mr. Goadby: Cultures and Specimens from a Rosaceous Type of Acne.
Dr. Sequeira: Case of Congenital Syphilis.
Dr. Graham Little: Case of Congenital Absence of Nails.

N.B.—Fellows of the Society are entitled to attend and to speal at all Meetings.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover square, W.
Friday.—8.30 p.m., Dr. A. Castellani: *Some Tropical Diseases ir Ceylon.*

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11 Chandos-street, Cavendish-square, W.
Friday.—5.30 p.m., Annual General Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22 Chenies-street, W.C.
Monday.—4 p.m., Dr. S. E. Dore: *Clinique (Skin).* 5.15 p.m.
Lecture:—Mr. C. R. B. Keetley: *Affections* of the Toes, Feet and Ankles.
Tuesday.—4 p.m., Dr. G. A. Sutherland: Clinique (Medical)
Wednesday.—4 p.m., Mr. C. Ryall: Clinique (Surgical). 5.15 p.m.
Lecture: Mr. C. H. Leaf: The Principles underlying Surgica Treatment in so-called Inoperable Cancer.
Thursday.—4 p.m., Mr. Hutchinson: Clinique (Surgical). 5.15 p.m.
Lecture:—Dr. H. D. Rolleston: The Association of Jaundice an Splenic Enlargement.
Friday.—4 p.m., Mr. C. A. Parker: Clinique (Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith road, W.
Monday.—12 noon, *Lecture*:—Dr. Low: Pathological Demonstra
tion. 2 p.m., Medical and Surgical Clinics. X Rays. Mr. Dunn
Diseases of the Eyes. 2.30 p.m., Operations. 5 p.m., Lecture:—
Dr. Saunders: Clinical (with cases).
Tuesday.—10 a.m., Dr. Moullin: *Gynæcological* Operations
2 p.m., Medical and Surgical Clinics. X Rays. Dr. Davis
Diseases of Throat, Nose, and Ear. 2.30 p.m., Operations. Dr
Abraham: Skin Diseases. 5 p.m., Lecture: Mr. Pardoe: Th
Differential Diagnosis of Scrotal Swellings.
Wednesday.—10 a.m., Dr. Saunders: Diseases of Children
12.15 p.m., Lecture:—Dr. Pritchard: Practical Medicine. 2 p.m.
Medical and Surgical Clinics. X Rays. Dr. K. Scott: Disease
of the Eyes. 2.30 p.m., Operations. 5 p.m., Lecture:—Dr
Beddard: Medicine.
Thursday.—2 p.m., Medical and Surgical Clinics. X Rays. Mr
Dunn: Diseases of the Eyes. 2.30 p.m., Operations. 5 p.m.
Lecture:—Mr. Dunn: Cases of Eye Diseases.
Friday.—10 a.m., Dr. Moullin: Gynæcological Operations
12.15 p.m., Lecture:—Dr. Pritchard: *Practical* Medicine. 2 p.m.
Medical and Surgical Clinics. X Rays. Dr. Davis: Disease
of the Throat, Nose, and Ear. 2.30 p.m., Operations. Dr
Abraham: Skin Diseases. 5 p.m., Lecture:—Dr. Saunders
Clinical (with cases).
Saturday.—10 a.m., Dr. Saunders: Diseases of Children. 2 p.m.
Medical and Surgical Clinics. *X Rays.* Dr. K. Scott: *Disease*
of the Eyes. 2.30 p.m., Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnough Hospital, Greenwich.
Monday.—2 p.m., Operations. 2.15 p.m., Sir Dyce Duckworth
Medicine. 4 p.m., Special Lecture:—Mr. L. A. Lawrence
Hearing. Out-patient Demonstrations:—10 a.m., Surgical an
Medical. 12 noon, Ear and Throat.
Tuesday.—2 p.m., Operations. 2.15 p.m., Dr. H. T. *Hewlett*
Medicine. 3.15 p.m., Mr. McGavin: Surgery. 4 p.m., *Sir M*
Morris: Diseases of the Skin. Out-patient Demonstrations:—
10 a.m., Surgical and Medical. 12 noon, Skin.

Communications, Letters, &c., have been received from—

A.—Messrs. C. G. Adams and Co., Lond.; Army and Navy Male Nurses' Co-operation, Lond., Secretary of.

B.—Dr. J. Buchanan, Watford; *Birmingham General Hospital*, House Governor of; Messrs. Boulton and Paul, Norwich; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. G. Barth and Co., Lond.; Dr. A. H. Brehaut, Guernsey; Dr. Cesare Ballabene, Stettin; Dr. F. T. Bond, Gloucester; Mr. J. W. Benson, Lond.; Mr. P. Brammall, Barcelona; Messrs. S. H. Benson, Lond.; Dr. C. H. Bond, Epsom; Messrs. Blundell and Rigby, Lond.; Messrs. Baillière, Tindall, and Cox, Lond.

C.—Mr. F. H. Cooke, Birch; Dr. C. S. Crichton, Cambuslang; *Messrs. Cassell and Co., Lond.*; Messrs. J. and A. Churchill, Lond.; Chesterfield, &c., Hospital, Secretary of; Dr. A. E. Cordes, *Geneva*; Mr. B. Collard, Llandilo; C. M., Nuthea Gali; Connaught Nurses' Association, Lond., Manager of; Caledonian Medical Society, Derby, Hon. Secretary of; Mr. F. M. Conway, Boscombe; Mr. M. J. Chevers, Manchester.

D.—Sir Dyce Duckworth, Lond.; Dr. Andrew Duncan, Lond.; Mr. T. C. Down, Lond.; *The Dental Surgeon*, Lond., Editor of; Dental Manufacturing Co., Lond.; *Dorset County Asylum, Dorchester*, Medical Superintendent of; Mr. W. A. Dawson, Preston; Messrs. Dorman and Co., Lond.; Derbyshire Royal Infirmary, Derby, Secretary of; Messrs. Durand, Bennett, and Co., Lond.; Messrs. S. Deacon and Co., Lond.; Messrs. W. Dawson and Son, Lond.

E.—The Empire Shirt Co., Lond.; Ex Libris Society, Lond.

F.—Dr. A. W. Fuller, Lond.; Dr. P. G. Foulkes, Worcester; Messrs. Farebrother, Ellis, and Co., Lond.; Messrs. Flint and Durbridge, Lond.; Messrs. Walter E. Fischer and Co., Lond.; Dr. A. Fraser, Dublin; The Fine Art Society, Lond.

G.—Sir W. R. Gowers, Lond.; Mr. H. Tyrrell Gray, Lond.; Dr. G. Lovell Gulland, Edinburgh; Grant Medical College, Bombay, Principal of; Glasgow Corporation, Bacteriologist of; *Messrs. John Galpin*, Lond.; Glasgow Corporation, Clerk of; General Practitioner, Lond.

H.—Mr. Cyril Horsford, Lond.; Dr. W. J. Howarth, Maidstone; Mr. R. O. Handcock, Lond.; Dr. W. E. Heilborn, Bradford; Miss C. Hay-Thomson, Glasgow; Dr. E. S. Hill, Ayr; Mr. F. A. *Hepworth*, Dewsbury; Hanley, &c., Joint Hospital Board, Clerk of; Holborn Surgical Instrument Co., Lond.; Mr. Harold C. Hicks, Bristol.

I.—Colonel Inglefield, Lond.

K.—Miss L. Keay, Hereford; Dr. K. Kellie, Lond.; Mr. Charles R. Keyser, Hayward's Heath; Messrs. S. Kutnow and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Dr. E. B. Leech, Manchester; Dr. H. A. Lediard, Carlisle; Right Rev. the Lord Bishop of London; Liernur's English Syndicate, Lond., Secretary of; Leicester Infirmary, Secretary of; Locum, Stoke-on-Trent.

M.—Dr. James Monteith, Oldham; *Miol Manufacturing Co., Lond.*; Mr. G. B. Messenger, Lond.; Messrs. Maple and Co., Lond.; Manchester Medical Agency, Secretary of; M. J.; Messrs. J. Menzies and Co., Glasgow; Mr. T. J. MacMahon, Manchester; Mr. J. F. Mackenzie, Edinburgh; Dr. D. McKenzie, Lond.; Dr. C. J. Morton, Lond.; Messrs. F. Mundy, Gilbert, and Co., Birmingham; Messrs. Muffler and Co., Lond.; Dr. H. D. McCulloch, Lond.

N.—Dr. E. Nettleship, Hindhead; Dr. David Newman, Glasgow; National Society for Epileptics, Lond., Secretary of; *North Riding Infirmary*, Middlesbro', *Secretary of*; *Mr. J. C. Needes*, Lond.; Mr. H. Needes, Lond.; Messrs. Neyroud and Sons, *Lond.*

O.—Mr. Bryan O'Donnell, Lond.; Odol Chemical Works, Lond.; Mr. H. Ohmes, Christiania; O. B. A.; Dr. Ord, Castle-Gresley.

P.—Mr. Harry Phillips, Lond.; *The Prescriber*, Edinburgh; Messrs. J. and J. Paton, Lond.; Messrs. Peacock and Hadley, Lond.

R.—Mr. J. Randall, Liverpool; Mr. R. Redpath, Newcastle-on-Tyne; Royal College of Physicians, Lond., Secretary of; Messrs. Rebman, Lond.; R. M. T.; Royal Society of Medicine, Lond., Secretary of; Rotherham Hospital, Secretary of; Royal Society of Medicine, Therapeutical and Pharmacological *Section, Hon. Secretary of*; Royal Albert Hospital, Devonport, Secretary of; Major O. Robinson, R.A.M.C., Netley; Messrs. E. J. Reid and Co., Lond.; Royal Surrey County Hospital, Guildford, Secretary of.

S.—Mr. W. H. Soady, Reading; Salford Borough, Clerk to the; Messrs. Staples and Co., *Lond.*; The Sanitary Publishing Co., Lond.; Scarborough Hospital and Dispensary, Secretary of; Rev. J. P. Sandlands, Brigstock; Messrs. Spring and Co., Brigg; Mr. S. G. Shattock, Lond.; Mr. A. Stiebler, Lond.; *South Eastern Herald*, Lond., Editor of; Messrs. Siemens Bros. and Co., Lond.; Sheffield Children's Hospital, Secretary of; Messrs. W. H. Smith and Son, Manchester; Mrs. J. H. Swan, Horley; Lieutenant-Colonel D. B. Spencer, I.M.S., Lond.; Dr. J. Gordon Sharp, *Leeds*; St. Marylebone, Borough of, Medical Officer of Health of; Dr. Henry Simpson, Deganwy; Society for the Destruction of Vermin, Lond.; Mr. H. B. Symons, Aldeburgh-on-Sea; Star Engineering Co., Wolverhampton.

T.—Mrs. Edith M. Tilbrook, Lond.; "Tied to It;" Mr. C. Turner, Lond.

U.—University of Birmingham, Dean of.

V.—Dr. Ralph *Vincent*, *Lond.*; Victoria Hospital, Birmingham, Secretary of; Mr. H. Vaughan, Lond.

W.—Dr. Leonard Williams, Lond.; Mr. T. M. Watt; Goxhill; Messrs. A. Wulfing and Co., Lond.; Mr. H. G. Webb, Workington; Miss F. Waugh, Manuden;
Weston-super-Mare
Secretary of; W
poration, Clerk of;
General Infirmary,
Mr. William Woodward,
Dr. E. M. Woodman,
Wolverhampton G
pital, Secretary of;
White and Son,
Office, Lond., Secretar
Mr. P. E. Ward,

Y.—Mr. Macleod Yearsley
Messrs. Douglas
Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. E. Allen, Driffield; Messrs. Abel and Imray, Lond.; Messrs. Allen and Hanburys, Lond.; Nurse Ancell, Sandown; Aberystwyth Infirmary, Secretary of; Mr. Adams, Sunderland; Mr. L. B. Abrahams, Westcliff; Anderson's College Medical School, Glasgow, Treasurer of; Messrs. Armbrecht, Nelson, and Co., Lond.; A. E. S.

B.—Messrs. Bedford and Co., Lond.; *Bournemouth Education Committee*, Secretary of; Blackburn *County Borough*, *Secretary of*; Mr. D. M. Bell, Pelham Manor, New York; Blackburn, &c., Infirmary, Secretary of; Mrs. J. R. Boldeston, Felixstowe; Messrs. J. L. Bullock and Co., Lond.; Messrs. Brown and Son, Huddersfield; Barnsley Hall Asylum, Bromsgrove, Medical Superintendent of; Mr. W. G. Burcombe, Lincoln; Bradford *Union, Clerk of.*

C.—Dr. W. H. Chesters, Coleford; Dr. A. P. Coker, Gisborne, New Zealand; C. W. L.; Messrs. T. *Christy* and *Co.*, *Lond.*; Messrs. Condy and Mitchell, Lond.; Crewe Corporation, Secretary of; Messrs. Clarke, Son, and Platt, Lond.; Messrs. Callard and Bowser, Lond.; Mr. F. W. Clarke, Manchester.

D.—Mr. C. Dibben, Maldon; Messrs. A. Driver and Sons, Chelmsford; D. S. D.; Messrs. J. Defries and Sons, Lond.; Denver Chemical Co., Lond., Secretary of; Mr. E. Darke, *Lond.*; *Dr. W. T. Dougal*, *Pittenweem*; Messrs. Dowie and Marshall, Lond.

E.—Dr. G. Evans, Evesham; Dr. H. Ebbinghaus, Dortmund, Germany; Messrs. Elliott, Son, and Boyton, Lond.

F.—Mr. H. A. T. Fairbank, Lond.; Dr. H. W. Furnivall, Woodbury; Messrs. Ferris and Co., Bristol; Dr. J. J. T. R. Felix, Beau Bassin, Mauritius; Fermanagh County Hospital, Enniskillen, Secretary of; Freeland, Fazeley; Mr. F. J. Fagge, Llanfairfechan; Dr. J. K. Frost, Dorchester; Messrs Harvey Frost and Co., Lond.

G.—Mr. B. C. Ghosh, Midnapore; Dr. J. G. Gordon-Munn, Norwich; Grove House Private Asylum, Church Stretton; General Life *Assurance Co., Lond., Secretary* of; Mrs. Gihon, Ballymena; Mr. E. Gooch, Lond.

H.—Dr. W. Handcock, Bradford; Hereford General Infirmary, Secretary of; Dr. P. Hatton,
Paris; Mr. H. Hancock,
Mr. G. Heathcoate, W
Dr. J. B. Hall,
Prof. H. J. Hutchens,
H. S.; Mr. F. Hasler,
Dr. Field Hall, Lond.;
J. J. Hanley, R
F. Hargreaves,

I.—Hon. Mrs. S. Ives,
International Plasmon, Lond.

J.—Dr. K. Jivanji,
Mr. E. B. Jones, Lond.; J.
Messrs. Japp and Kirby
J. H., Lond.; J. L. R. W.

K.—Messrs. Knoll and Co.,
Messrs. Kilner Bros., Lond.

L.—Mr. H. H. Lacy,
Lanark, County of,
Mr. H. Lett, Lond.;
Public Dispensary, S
Mr. A. Lawson, *Lond.*;
Mr. R. Lake, Lond.;
Leckie, Lond.

M.—Dr. A. McLachlan,
Dr. R. R. McLean,
Messrs. May, *Roberts*, and
Lond.; Dr. W. Mansell
Culloch, *Bournemouth*; M.
Mrs. MacClintock, Church
ton; Mountain *Ash*
District Council Education
mittee, Accountant of.

N.—National Anti-Vacci
League, *Lond.*, Hon. Secret

O.—Oldham Corporation,
surer to the.

P.—Messrs. C. Pool and Co.,

R.—Mr. J. Robertson, Portpa
Mr. R. A. Ross, *Lond.*;
Buckinghamshire Hospital,
bury, Secretary of; M
Reynolds and Branson, Le
Mr. D. Riddell, Kilmalc
Reuter's Telegram Co., L
Mr. J. Reidy, Lond.

S.—Mr. D. Stewart, Gla
Mr. H. Scatliff, Brig
Messrs. Sonns, Johannes
Messrs. G. Street and Co., L
Mr. L. Scudamore, Rhym
Dr. C. F. Sevill, Oulton; M
T. and H. Smith, Edinb
Messrs. Schimmel and Co.,

T.—Miss A. Taylor, Edinb
Mr. J. Thin, Edinburgh; T
Tenens, *Lond.*

V.—Mr. C. Veitch, Edinb
Staff-Surgeon M. L. M. V
R.N., Portsmouth.

W.—Mr. A. C. Wootton,
Mr. R. S. Wright, Ux
Fleet-Surgeon E. C. Ward,
Chatham; Messrs. W. A.
ram, Leeds; Mr. W. F.
Walker, Dinas Mawddwy;
J. H. F. Wilgress, Folke
Mr. J. P. Wagstaff, Hornch
Dr. H. Wise, Poynton; M
H. Wilson and Son, *Lond.*;
Dr. R. A. Walker, Peterboro

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

For the United Kingdom.		To the Colonies and Abroad.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant ...	Ditto	0 4 6
	Every additional Line	0 0 6

Situations wanted: First 30 words, 2*s.* 6*d.*; per additional 8 words, Quarter Page, £1 10*s.* Half a Page, £2 15*s.* An Entire Page, £5 5

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Mana Mr. Charles Good, The Lancet Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

The Lancet can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 31, Rue Bapst, Asnieres, Paris.